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ABSTRACT

Reasons for the failure of the Manpower Development and Training Act (MDTA) of 1962 to meet its major objective of alleviating skills shortages are recorded and analyzed. The lack of skills shortages was admitted to be the main reason for the shortcomings in performance, although the term "skills shortage" had yet to be defined and skills shortage occupations had not been identified. Of 905 demand occupations identified in 14 labor market areas, 156 occupations fell within MDTA's scope and of these, there were institutional manpower training programs for 88. Other inhibitors of program effectiveness and related problems include: (1) lack of a system to define or identify demand occupations at the local level, (2) restrictions imposed on present job training programs, and (3) the questionable benefits to be derived by adding additional training programs. Data were collected nationally by examining hard-to-fill job orders at government employment services, performing a want-ad analysis, and interviewing over 25 employers as well as others knowledgeable about manpower conditions. Numerous tables present the data. (A few pages may be illegible.) (AG)

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EVALUATION OF THE EFFECTIVENESS OF INSTITUTIONAL MANPOWER TRAINING IN MEETING EMPLOYERS' NEEDS IN SKILLS SHORTAGE OCCUPATIONS

Final Report
June 1972

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PREPARED FOR

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CONTENTS

Acknowledgments page ix

Chapter One. MDTA Training and Skills Shortages: Summary of an Evaluation 1

- Nature of the Evaluation 2
- Overall Conclusions 3
- Definitions of Skills Shortage 5
- Major Findings 9
- Sources of Occupational Data 18
- Employer Attitudes 20
- Conclusions 22

Chapter Two. Introduction 29

- Changing Emphasis 32
- Summary of Current Evaluations 36
- Problems in Performing the Skills Shortage Evaluation 39
- The Evaluation Methodology 46
- Organizing of Report 50

Chapter Three. The Setting 53

- Overview 53
- Area Descriptions 57

Chapter Four. The System 81

- National Office Data 83
- Inside the Employment Service 89
- MDTA System 125
- CAMPS 134
- Manpower Delivery System 143
- Search for Guidelines 148

Chapter Five. The Findings 153

Methodology 154
IOI Analysis 160
Overview of Major Inhibitors 163
Demand Occupations in Seven or More Cities 169
Two-City Analysis 179
Employer Interviews 184
Dynamics of Change 186
National Shortages 188
Timeliness 190
Major Inhibitors 191

Chapter Six. The Record 197

Enrollee Characteristics 197
Performance Information 208
Summary 218

Chapter Seven. The Employer Interviews 221

Employer Interview Criteria 222
Organization 229
Employer Reaction to MDTA Institutional Training 237
Layoff and Recall Patterns 253
Incidence of Internal Training Programs 255
Public Employers and "Skills Shortage" Occupations 258
Institutional Training versus OJT 260
Summary 262

Appendix

Part I. Labor Market Bulletin 267

Part II. Data Bank Bulletin 285

Part III. Job Bank Analysis 293

Part IV. Use of JOLT Job Vacancy Information 309

Part V. Changes in Course Offerings (City Change Charts) 337

Part VI. Unknown Enrollee Characteristics 353

LIST OF TABLES

Table

1-1 Suitable Occupations in Which No Training Occurred 11

1-2 Overview of MDTA Institutional Training for Fourteen Areas 12

3-1 Unemployment Rates and Total Labor Force Figures 54

3-2 Total Population and Minority Composition 56

3-3 Annual Average for Employment Areas 58

4-1 Unfilled Job Openings 102

4-2 Occupational Concentration of Job Transactions 118

4-3 Distribution of Most Frequent Job Transactions 121

4-4 Responses to "How Do You Justify Training Programs?" 127

4-5 Responses to "How Do You Identify Training Needs?" 128

5-1 Overview of MDTA Institutional Training 165

5-2 Occupations "In Demand" in Seven Cities or More 172

5-3 Correlation between MDTA and Demand Occupations 182

5-4 MDTA Occupations--Dynamics of Change 187

6-1 Ranking of Cities by Proportion of Disadvantaged Enrollees 198

6-2 Ranking of Cities by Proportion of Enrollees below Poverty-Level Income 200

6-3 Enrollee Characteristics (city) 201

6-4 Degree of Disadvantaged Scores 202

6-5 Enrollee Characteristics (occupational offerings) 206

6-6 Degree of Disadvantaged by Occupational Cluster 207

6-7 Performance Rates and Degree of Disadvantaged (city) 209

6-8 Performance Rates and Degree of Disadvantaged (occupational area) 212

6-9 Performance Rates by Occupational Cluster 213

6-10 Enrollment, Completion Rates, 30-Day Placement Rates 215

Table

6-11 Three- and Six-Month Follow-up 216

7-1 Industrial Distribution of Firms Interviewed 225

7-2 Type of Firms Contacted 226

7-3 Male and Minority Characteristics 227

7-4 Penetration of the Labor Market 228

7-5 Skills Shortage Effects 231

7-6 Employer Compensation for Skills Shortage Deficiency 232

7-7 Distribution of Responses--Employer Participation 234

7-8 Appraisal of MDTA Trainees (number) 240

7-9 Appraisal of MDTA Trainees (percentages) 241

7-10 Recruiting Sources (city) 243

7-11 Recruiting Sources (industry) 246

7-12 Screening Devices 250

7-13 Layoff-Recall History of Firms 254

7-14 Internal Training Activities 256

A-III-1 Overview of ES Activities 300

A-III-2 Distribution of New Openings by Skill-Level Cluster 301

A-III-3 Distribution of Placements 304

A-IV-1 Size and Coverage of BLS Job Vacancy 312

A-IV-2 JOLT Quarterly Report on Job Opportunities 313

A-IV-3 Ratio of Manufacturing to Total Nonagricultural Wage and Salary Employment 317

A-IV-4 Types of Data Available 318

A-IV-5 Comparison of Vacancies with Job Orders in Manufacturing 319

A-IV-6 JOLT Vacancies--Milwaukee 322

A-IV-7 JOLT Long-Term Vacancies--Milwaukee 323

A-IV-8 JOLT Vacancies--Miami 324

A-IV-9 JOLT Long-Term Vacancies--Miami 325

Table

A-IV-10 JOLT Vacancies--St. Louis 326
A-IV-11 JOLT Long-Term Vacancies--St. Louis 327
A-IV-12 JOLT Long-Term Vacancies More than Once 329
A-IV-13 JOLT Vacancies--Long-Term Openings More than Once 330
A-IV-14 Comparison of Federal- and State-Level Job Titles and Skill Levels 334
A-VI-1 Percentage of Enrollee Characteristics Not Reported (city) 355
A-VI-2 Percentage of Enrollee Characteristics Not Reported (occupations) 356

LIST OF FIGURES

Figure

5.1 Example of IOI 156
5.2 Example of Training Programs in IOI 157
5.3 Major Inhibitors in the "World" of MDTA 167
5.4 "World" of MDTA Minus Major Inhibitors 167
5.5 Relationship of MDTA Institutional Training to Occupations in Demand 171

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Chapter One

MDTA Training and Skills Shortages: Summary of an Evaluation

Listed first among the original findings and purposes of the Manpower Development and Training Act (MDTA) in 1962 was the alleviation of skills shortages. Training the unemployed and underemployed was fifth in the listing. A 1966 program directive specified that 65 percent of MDTA training funds should be expended upon training the disadvantaged, while the remaining 35 percent should be allocated to the skills shortage assignment. Therefore, it was appropriate in a series of evaluations undertaken in the tenth year of MDTA's life to assess the extent to which it has trained eligible people to fill skills shortage occupations.

After studying the role of MDTA institutional training in a sample of 14 labor markets scattered throughout the nation, we concluded that, at least for the period of time encompassed by the study, no significant impact upon skills shortages can be identified. This report analyzes and records why this was so.

The primary reason was the lack of skills shortages within the reach of MDTA's limited training duration. However, had such shortages existed, there was neither a method for identifying them nor a clear assignment and commitment for filling them.

This summary chapter clarifies the objectives of the evaluation, summarizes the findings, explores the meaning of "skills shortage," and expands upon and explains this negative result.

NATURE OF THE EVALUATION ASSIGNMENT

The assignment of this evaluation was:

(1) To identify occupations in which there are persistent local and regional shortages of workers with the requisite skills available to employers and which are suitable to institutional manpower training programs

(2) To determine and quantify the extent to which training has been conducted in these occupations

(3) To assess the effectiveness of institutional manpower training in providing adequately trained and job-ready manpower on a timely basis in response to employers' needs in the occupations pursuant to (1) above

(4) To identify those factors of common or broad applicability which are the principal inhibitors of program effectiveness. This includes not only factors inherent in program concept, design, and operation, but also external factors, such as labor market conditions, hiring and employment practices, credentialing, etc.[1]

---

[1] RFP 7102--Effectiveness of Institutional Manpower Training in Meeting Employers' Needs in Skill Shortage Occupations, Manpower Administration, U.S. Department of Labor, Exhibit "A" (January 12, 1971), p. 1.

The first objective constituted the primary purpose of the evaluation; the others depended upon whether or not it could be accomplished. But that primary objective had within it three lurking traps which had to be avoided or surmounted before evaluation could even begin:

- An accepted definition of the term "skills shortage" had to be identified or achieved.
- A means or system had to be discovered or developed for identifying skills shortage occupations on a local and regional basis.
- An acceptable meaning had to be achieved for the phrase "suitable for institutional manpower training programs."

Following a summary statement of the findings related to each of the four objectives, the conceptual problems are discussed and a fuller summary exploration of the findings is provided.

OVERALL CONCLUSIONS

The overall conclusion related to the four major objectives of the study can be stated succinctly:

1. No system exists for defining or identifying skills shortage occupations at the local level. Occupational demand information is based mainly on Employment Service (ES) transactions which account for only a minor proportion of total labor turnover in any given area.

2. There were 68 occupations subsumable within 12 training clusters which were identifiable as in demand but were subject to little or no training. However, there was no assurance that training in these occupations would have

resulted in higher placement rates, steadier employment, or higher earnings than resulted from the occupations in which training occurred. With limited budgets administrators faced "either/or" choices and by and large remained with those providing the most favorable experience.

3. There were 108 demanded occupations for which MDTA training could have been provided legally but for which training would have required a longer period at a higher per trainee cost than currently practiced. However, one cannot be sure that MDTA trainees, many of them disadvantaged, would be able to compete successfully with those trained in other public or private schools. Timeliness was not an issue. Most institutional programs are for occupations in which turnover rates are high, or in which there is a relatively continuous and persistent demand. The question of "timeliness," therefore, is not of paramount importance. There are always openings for clerical workers, welders, workers in the health field, auto mechanics, auto body repairmen, and production machine operators in most areas. Most employers have no opinions regarding the timeliness of institutional training. This may reflect the fact that they have experienced few "skills shortages" over the past three years, or it may be that they do not consider MDTA institutional training a source for highly skilled workers.

4. A major inhibitor to training in occupations, which based on ES transactions and want-ad analyses, appeared to be in demand was current practice restricting training to shorter periods and lower per capita expenditures than authorized in law. The most serious inhibitor, however, may have been lack of a system for identifying occupations in high demand and in reach of MDTA

institutional training. How seriously this deficiency may have impeded the program cannot be known without knowing which demand occupations went undiscovered. Union opposition involved a significant number of occupations. However, since they were primarily traditional, apprenticeable crafts in construction and printing, it would be necessary for objectivity to balance this opposition to institutional training with the extent of union involvement and cooperation in apprentice outreach activities.

DEFINITIONS OF SKILLS SHORTAGE

The literature of labor economics contains lengthy discussions of the terms "labor shortage" or "skills shortage," none of which ever achieved definitive results. In common parlance, a shortage exists when employers seek to hire more workers than appear ready to accept their offers. But why? Perhaps all workers with the requisite experience are already employed; but cannot demanding employers hire them away from their present jobs? Perhaps the apparent shortage is only unwillingness to offer the pay and nonpecuniary advantages necessary to attract workers from alternative activities. Few skills are really unique. If no one is available with the precise skills and experiences, can no one be attracted with adequate related skill? Skill requirements are noticeably flexible, rising in slack labor markets as people become available and loosening as jobs get harder to fill. Most production activities involve some combination of natural, capital, and human resources. What prevents the employer from compensating for manpower stringencies by changing these combinations? If not enough people with desired skills are available, why aren't employers expanding training activities?

Perhaps time is the critical factor. Traditional static equilibrium analyses in which economists cross demand and supply curves abolishes by definition the whole concept of shortages. At the equilibrium point, the number of persons employers are willing to hire at that wage is exactly equal to the number who are willing to work. The number "demanded" and "supplied" can diverge only when there is a gap between the wage offered and that expected, but the persistent tendency is to move toward equilibrium. However, in the real world all adjustments take time, and there are disequilibrating as well as equilibrating forces.

The nearest labor economists have come to a satisfactory definition of labor shortage rests upon that time dimension. It is a situation in which the demand for labor in a particular occupation is rising faster than adjustments can occur, even though wages rise more rapidly than the average to attract workers from other pursuits.

The definitional problem for this evaluation is twofold: (1) How can the MDTA administrator assigned to alleviate skills shortages identify them, and (2) how can the evaluator determine whether the administrator has been successful? As will be pointed out below, the problem of obtaining data on supply and demand is overwhelming, but even if data were available, interpreting it would be even more difficult. The most that could be expected would be data on the number of employers seeking workers and workers seeking jobs in particular occupations. If the former exceeds the latter, is the problem lack of workers with requisite skills, relative unattractiveness of the job offers, institutional barriers which prevent matching supply and demand, or just the necessary time for adjustment?

Not only are data nowhere available on job seekers and job vacancies, but employed workers might accept better jobs if they knew of them, and employers without explicit vacancies might hire extraordinarily qualified workers if they happened upon them. No central point exists at which those seeking either jobs or employees are identified and measured. The closest approach is the applications and job orders at the public employment service. Newspaper want ads, union hiring halls and private employment agencies are other examples but altogether account for only a minor proportion of the total hiring transactions.

But even where employer job orders or worker applications are identified, no means exists for identifying "skills shortages." An accumulation of job orders in a particular occupation may mean:

(1) That the jobs, pay, and working conditions are not sufficiently attractive to attract workers

(2) That available or potential job seekers have not heard of the openings

(3) That the openings are in occupations which experience high turnover and a continuing need for new hires

(4) That the occupation is sufficiently large that openings are frequent, even though turnover is not high

(5) That barriers to the entry of available workers exist

(6) That there are in fact shortages of persons with the requisite skills to permorm the required tasks.

All of these issues ORC confronted in attempting to assess MDTA's impact upon skills shortages. Many occupations wherein skills shortages might be expected require training beyond the reach of MDTA. Clerical and health occupations (areas of intense MDTA involvement) experience high turnover, even though they are relatively attractive jobs, simply because the incumbents are predominantly female. Low-skill/low-pay occupations in hospitals, restaurants, etc., are hard to fill because they are undesirable and are characterized by high turnover. Welding, the metal machine trades, auto mechanics, and auto body repair are not ordinarily high-turnover occupations but are so widespread that openings are usually available. Some complain that apprentice entrance requirements are too high and training too long, creating "false" shortages. Licensure, discrimination, or plain lack of information may block those who could perform the work.

Employers are constantly adapting to the available supply of labor--in the short run in their screening procedures, hiring requirements, and overtime practices; in the longer run, in redesigning jobs and designing and introducing technology. In that range of occupations within the scope of MDTA, shortages of experienced workers is much more likely than shortages of those with entry-level skills. And experience requirements are especially flexible, depending upon the relative status of supply and demand.

These definitions and practical problems set limits to the ability to answer the basic question of MDTA's impact on skills shortages. In any period, the possibilities would be only to identify occupations in demand and make judgments of the reasons for difficulty in filling those demands. By happenstance, the study occurred during a recession and no employer interviewed reported having experienced a "skills shortage" in recent years. In fact, most admitted raising their hiring requirements as economic conditions declined.

The study identified from available sources those occupations experiencing relatively high demand, segregated those within the scope of MDTA institutional training, and then assessed the impact of MDTA in meeting those demands.

MAJOR FINDINGS

Searching for skills shortage occupations, ORC researchers examined ES hard-to-fill job orders and other data, performed a want-ad analysis, interviewed 25 or more employers in each of 14 labor market areas, and interviewed local ES personnel, union representatives, state and local apprenticeship officials, and others involved and knowledgeable about manpower conditions. The difficulties of defining and measuring skills shortages made it necessary to broaden the search to those occupations in persistent demand which had substantial skill content.

Analysis of Demand Occupations

In all, 905 occupations were identified which were in demand in one or more of the 14 areas. Those suitable for MDTA were segregated from the total, the extent to which MDTA training was already occurring in these occupations was measured, and the inhibitors preventing greater use of MDTA to meet the demands in these occupations were assessed. That analysis identified 156 occupations in demand, suitable for MDTA, not subject to overwhelming legal and political inhibitions and involving substantial skill content. But training had occurred in 88 of these, leaving an unexploited field of 68 occupations.

The analysis proceeded as follows:

- Total demand occupations: 905
- Unsuitable for MDTA by reason: 749, of which there were:
  - -- Outside legal scope of MDTA: 44
  - -- Lacking substantial skill content: 378
  - -- Trainable within allowable 104 weeks but not within current administratively limited length of training: 108
  - -- Union opposition: 77
  - -- Licensing and credentialing requirements: 5
  - -- Against MDTA regulations: 17
  - -- Employer hiring requirements: 7
- Remaining occupations: 156, with
  - -- Number in which MDTA training occurred: 88
- Suitable and uninhibited occupations without MDTA training: 68

Among the reasons for unsuitability, the first two do not inhibit the program but merely eliminate those occupations requiring training beyond the 104 weeks authorized by the MDTA legislation or which do not involve sufficient skill content to justify institutional training. Licensing and credentialing regulations, national MDTA administrative decisions on appropriateness, and employer hiring practices are not major inhibitors of the institutional program. Only the brevity of training under current practices and union opposition loomed as significant inhibitors. Lack of a system for identifying demand occupations may be an inhibitor, depending on whether any unidentified shortages or demand occupations exist.

How serious are the shortages reflected by the 68 suitable but nontraining occupations? Why has not such training occurred? MDTA training rarely occurs for specific occupations. Thus, the 68 nontraining occupations identified can be subsumed into seven clusters (Table 1-1) which in aggregate had been allocated only a little over 300 out of a total of more than 11,000 MDTA slots available in the 14 areas within the three fiscal years studied.

TABLE 1-1

Suitable Occupations in Which No Training Occurred
(Fourteen areas)[a]

Cluster	Number of Occupations	MDTA Slots
Draftsmen	12	169[b]
Nonmedical technicians and assistants	17	None
Bookkeeping and accounting	5	None[c]
Computer and data processing	3	None
Woodworking occupations	18	80
Truck and heavy equipment mechanics	6	35
Heating, cooling, and air conditioning	7	30
TOTAL	68	314

[a] Data compiled by Olympus Research Corporation.

[b] Most drafting is for one occupation: "mechanical draftsman."

[c] Excluding "accountant" or "CPA"

Since funds spent for training in one occupation cannot be spent in another, the relevant question is "Why choose those occupations in which training occurred in preference for those which were suitable but not chosen for training?" Table 1-2 lists the occupations in which training occurred by their relative importance.

As Table 1-2 indicates, 56 occupations accounted for more than 83 percent of all institutional slots in the 14 cities. In fact, 73 percent of the slots fell into

TABLE 1-2

Overview of MDTA Institutional Training for Fourteen Areas (Fiscal years 1969-71)[a]

Cluster	No. of Occupations	No. of Slots	Percentage of Total Slots
Clerical	10	3,605	31.7%
Automotive	13	1,360	12.0
Medical occupations	9	1,113	9.8
Welding	4	1,093	9.6
Machine trades (metal)	5	1,054	9.3
Upholsterer/alteration tailor	2	458	4.0
Nonauto repair	11	407	3.6
Food services	4	412	3.6
All other	32	1,865	16.4
TOTAL	90	11,367	100.0%

[a] Data compiled by Olympus Research Corporation.

five occupational clusters. Yet the narrowness does not indicate an absence of experiment or an unwillingness to broaden offerings. Occupations outside the basic areas are frequently tried but rarely survive beyond one year. Completion and placement rates drop below existing norms and administrators flee to the safety of familiar courses and predictable performances. Change is more likely where investment in facilities and equipment is less, but the fact remains that the persisting training occupations are those where completions and placements are more consistent.

Careful examination of the detailed occupations identified from the demand sources and those underlying the training clusters in the 14 areas suggests the following conclusions:

- MDTA was training heavily in five clusters which had high demand ratings: clerical, auto mechanics, welding, medical occupations (except LPN), and mechanical drafting. It should be mentioned that on a nationwide basis 6 percent of all institutional slots (in fiscal year 1972) were for LPN.
- In the sample areas there was very little institutional training in the following occupations with high demand ratings: LPN, building maintenance, electricity and electronics occupations, carpenter, assembler, sales clerk, upholsterer, and heating, cooling, and air conditioning occupations.
- There was no institutional training in the following high-demand occupations: bookkeeping and accounting, keypunch operator,[2] shipping and receiving occupations, wholesale sales occupations, electrician, bricklayer, plumber, transportation occupations, sheet metal worker, and roofer.

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[2] On a national level, in fiscal year 1971, a total of 1,311 persons were enrolled in keypunch operator and related data processing occupations.

- There was heavy MDTA institutional training in the following medium demand occupations: nurse's aide, food preparation, metal machine occupations, and auto body repair.

By eliminating all of the above occupations which, for one reason or another, are not suitable for MDTA institutional training, only four groups of occupations with substantial skill content in which there is little or no MDTA training are left: electricity and electronics occupations, bookkeeping and accounting occupations, keypunch operator (see footnote 2), and wholesale sales occupations. To these, segments of the heating, cooling, and air conditioning cluster and LPN could be added in some areas. Nevertheless, the fact remains that MDTA planners persist in the traditional occupations because those are the areas in which they have had the greatest placement success. There is no evidence that shifting to the unexploited occupational groups would increase program success.

National Shortage Occupations

The U.S. Department of Labor (DOL) requested the evaluators to assess the effectiveness of MDTA in training for four clusters of occupations which are considered "national shortages": medical (or health), environmental, law enforcement occupations, and construction trades.

Medical (or Health)

Nearly 10 percent of all institutional slots were in the medical or health occupations cluster. Moreover, the range of occupations within the cluster was quite wide. The health occupations cluster, excluding LPN and the nurse refresher course, had the highest placement rate of any institutional program and even more surprising, was serving the most disadvantaged clientele. LPN and nurse refresher courses which served the least disadvantaged clientele had the second highest performance rating.

Environmental, Law Enforcement, and Construction Trades

Four cities allocated a total of 208 slots to environmental occupations; three cities allocated a total of 90 slots to the construction trades; only 20 slots in one city had been allocated to law enforcement (on a national basis, however, the "protection service" training being given through Project Transition is significant in the law enforcement field). It is too early to assess the effectiveness of these courses, although preliminary returns show that initial placement rates were high, but after six months few enrollees in these courses remained in training-related jobs.

Major Inhibitors

There are six inhibitors of MDTA training in demanded occupations: (1) short length of training coupled with emphasis on serving the disadvantaged; (2) the lack of a system for collecting, synthesizing, and storing occupational information at the local level; (3) the scarcity of funds; (4) union opposition in some occupational areas; (5) the tendency of newly created MDTA institutions to move toward a "stable" situation; and (6) employer hiring practices. Only the first three appear to have a significant effect.

Length of Training

Faced with limited funds far exceeded by program eligibility, administrators have preferred a lean program for maximum enrollment to a rich program for a few. The number of occupations in which disadvantaged people can be trained to even entry levels in an average of 29 weeks is limited. There is no evidence that replacement of the present training occupations by others accessible within the 29-week average would improve results. There is reason to believe that expanding to a full 104 weeks would not only improve results by accessing new and higher skilled occupations, it is also likely that a longer training period would multiply success in some of the current training offerings.

Lack of Occupational Information

The almost total lack of a system to provide planners with synthesized, easy to understand, demand information at the local level may be the most significant of the six major inhibitors. Lacking information, administrators are more likely to stay within the relatively narrow range of occupational offerings which have been shown to produce reasonable success in institutional manpower training programs.

Scarcity of Funds

MDTA allocations are inadequate to meet the needs for training in any given city or area. The question, therefore, is not one of broadening an existing program but of selecting which occupations are the most suitable for a limited program. There is a natural reluctance to drop existing courses because to do so necessitates the purchase of new equipment and curricula materials, thereby decreasing the portion of funds available for actual training.

Union Opposition

Union opposition, or what MDTA planners assume to be union opposition, occurs mainly in the construction and printing trades. A few breakthroughs have been made in these areas, but for the most part, both are considered "untouchable" by MDTA planners at the local and state levels. Union opposition was most significant in the analysis of occupations which appear in demand in seven cities or more where it accounts for a 12 percent reduction in the MDTA "world."

Need for Stability

Newly created MDTA institutions, such as Skills Centers and large multi-occupation centers, are not exempt from the institutional tendency to strive toward "stability." If a Skills Center's offerings were to change every year, the Skills Center would be in a perpetual state of turmoil. Skills Centers have no objections to broadening their occupational offerings (provided that adequate funds are available), but understandably, they do resist changes in existing occupational offerings.

Employer Hiring Practices

It is impossible to document the extent to which employer hiring practices limit the occupational range of MDTA training. It is obvious that civil service regulations constitute a formidable barrier in the public sector, but in the private sector, there are few formal, or written, screening mechanisms which work against MDTA trainees. There were indicators that in a loose labor market, the lack of a high school diploma was used by employers to screen out applicants, and in many of the survey areas, ES personnel, union officials, and even some employers were frank to say that black applicants could not be hired in certain occupations.

SOURCES OF OCCUPATIONAL DATA

Underlying the MDTA institutional training assignment are four assumptions:

(1) Training occurs in occupations where there are "reasonable" expectations of employment.

(2) These will be occupations in high demand, including those where shortages of workers with requisite skills occur.

(3) A data system exists for identifying those occupations.

(4) There is an official policy to allocate 65 percent of the slots to the disadvantaged, using the remaining 35 percent for the filling of skills shortages.

The fact that most unemployed workers who seek jobs after training find them gives reasonable support to the first assumption. As already stated, the tendency is to train in demanded occupations within the scope of present practices on training length, but no significant skills shortages could be identified within that scope.

The third and fourth assumptions are simply untrue. To reverse their order and get the fourth assumption out of the way, the 65 percent disadvantaged criterion is used after the fact as a test of MDTA's appropriateness. There is no policy, directive, or system for allocation of any proportion to skills shortages. The 35 percent is merely used to justify enrollments of the disadvantaged at less than 100 percent.

Surveys of data sources reveal no national sources of skills shortage information. The closest approach was the lists of hard-to-fill job orders from Area Manpower Reviews (AMR) of the United States Training and Employment Service

(USTES). Information exists on employment and forecasts by occupation and industry, but none of it relates supply and demand in any way useful to MDTA planners. They also reveal no skills shortage information as part of the state and local offices of the public ES. Outstanding were the following points:

- The research and statistics (R & S) staffs of state and local ESs are totally removed from the MDTA planning process, are rarely asked for help, seldom supply it, and have little usefulness to offer emanating from their current functions.
- None of the information on local office job orders and applicant services recorded in the computerized information systems of Job Bank, Employment Service Automatic Reporting System (ESARS), or Job Order and Labor Turnover (JOLT) in the 14 areas found their way in usable form into the hands of MDTA planners.
- Hard-to-fill job orders listed in AMRs were the only state or local compilations of occupations bearing any relation to skills shortages. However, there were typically unattractive jobs or those beyond the scope of MDTA.
- Olympus Research Corporation (ORC) researchers examined ES transactions to determine whether any unexploited information sources existed. It appears that potentially useful information exists, but there is no system for storing, analyzing, and retrieving such information.
- The JOLT system is potentially valuable in identifying job vacancies (different from skills shortages) but is limited to manufacturing and exists only in a few areas.

- The MDTA planning system (consisting of an MT-1 writer, a selection and referral officer (SRO), on-site directors of training institutions, CAMPS, MDTA advisory committees, participating employers, and unions) does function, though haphazardly, but depends for future training decisions primarily upon the placement success of past courses.
- Extensive interviews with ES staffs revealed, in general, remarkably little knowledge concerning the supply and demand conditions in the local labor markets they served.
- No guidelines are currently provided for the direction and assistance of MDTA personnel. The MDTA Handbook is considered obsolete by national, state, and local staffs. New guidelines have been prepared but have not been released to the field.

EMPLOYER ATTITUDES

A total of 25 to 30 employer interviews per city does not constitute a statistically sound measure of employer opinion and practice. Nevertheless, some useful insights were provided.

Generally speaking, employers were uninformed, unenthusiastic, and disinterested in MDTA institutional training. Although there were regional differences, employers had little invited or self-initiated contact with the planners and operators of institutional training. Few knew which institutions were participating in MDTA or which occupations were included in the programs. Employers, virtually without exception, shared a stereotyped image of a public training program that was wasteful, overadministered, overstaffed and generally ill equipped to deal with community manpower problems. Few employers, however, could justify this image or document their charges, and very often they contradicted themselves. For example, while condemning the overall program in strong terms, employers rated most MDTA graduates "average or better than average employees," and rated 70 percent as having average or better than average promotion potential.

This negative attitude may indicate that "horror" stories received more attention than "success" stories, but it may also be attributable to the relatively depressed economic conditions existing at the time of the survey. Most firms have not experienced manpower shortages over the past three years, and in fact, have been overwhelmed by the constant pressure of new applicants and referrals. In such a setting, employers are not apt to be open minded about public training programs.

Most employers, especially those who hire large numbers of semiskilled workers, prefer on-the-job (OJT) training (their own as opposed to public OJT programs) over institutional training. Craft employers, for the most part, do not believe that institutional programs are producing workers with skills adequate to compete in the craft market. The basis of this criticism may be the relatively short length of most institutional programs. However, employer preference for OJT is based upon the employers' contention that it does not take six months to train, for example, a machine operator. Many employers maintain that they could do the job in two weeks if they had a properly motivated individual.

Other highlights from the employer interviews were as follows:

- More than 60 percent of all hires were direct transactions between employers and applicants.

- The most common adjustment to a skills shortage was to work employees overtime.
- No real breakthrough had been made in the area of public employment. Civil service regulations are still a major barrier to MDTA enrollees.
- Employer screening devices generally consist of a check of the prospective employee's application form and a person-to-person interview. Although educational credentials are not a formal criterion, the lack of a high school diploma works against applicants in a loose labor market.

CONCLUSIONS

These conclusions regarding the effectiveness of institutional training in meeting employers' needs in skills shortage occupations are different from those that were anticipated by ORC staff at the beginning of this evaluation project. In retrospect, it would have been quite easy to collect shortage information and compare it to MDTA course offerings in the 14 cities, perhaps too easy. It would be equally easy, however, to conclude this evaluation with criticism of the methodologies existing to identify skills shortage occupations and determining their suitability to institutional training. Criticism of methodology or of research is of little value to the policy maker, unless a better methodology is available and can be used. Nevertheless, it is a fact that no accepted definition of the term "skills shortage" exists, to say nothing of a methodology in current use for identifying skills shortage occupations.

The issue goes beyond "skills shortages"; it questions whether the entire field of occupational information is adequate at local or regional levels--adequate not just for MDTA institutional training but for vocational education, junior and community colleges, the job-seeking public, and brokers (interviewers, counselors, job developers, placement officers, etc.) who are charged with the public function of helping the unemployed to find employment. When considered in this light, the absence of usable occupational data at the local level is very serious indeed.

A major finding and conclusion of this report is that no system exists for defining or identifying skills shortage occupations at the local level, despite the introduction of computerized data gathering systems, the existence of a national industrial matrix, the methodologies for forecasting national occupational needs, applicant information (including unemployment insurance [UI] transactions), and other valid sources of information. No system exists for synthesizing and storing occupational information emanating from many sources. For the most part, the R & S staffs of ES are operating as field staffs to generate aggregate data that are used in identifying national or state trends; they are not providing staff services to the operating arms of ES. As a result, planning is left to those least capable of understanding complicated information-gathering systems and methodologies for identifying demand or skills shortage occupations, or for making occupational forecasts.

If information generated by Job Bank, ESARS, Employment Service On-line Placement System (ESOP), and JOLT could be adapted for local use and staff could be trained in how to apply national matrices and methodologies to local areas, the situation would be much improved. At the present time, however, the computerized systems, if utilized at all, are used to evaluate local office performance rather than to help improve performance or to gain insights into the occupational needs of communities.

GRC's conclusions are as follows:

(1) MDTA is training in occupations which, based on ES activities, are demand occupations. However, 73 percent of all MDTA slots are in five occupational clusters: clerical, automotive, health occupations, welding, and metal machine trades. If upholsterer/alteration tailor, nonauto repair, and food services are added to the above-named clusters, a total of 83 percent of all MDTA slots are accounted for.

(2) A total of 32 occupations account for 16.4 percent of all institutional training slots. Included among these are many "nontraditional" programs which have been tried for a year and then dropped because of poor performance results. One of the primary reasons for the failure of these courses appears to be lack of knowledge about the kind of training required to assure success.

(3) National and statewide forecasts of expanding industries and occupations are available, but they are of little use to planners at the local level.

(4) The MDTA Handbook is obsolete; thus, there are no guidelines currently in effect with respect to training for skills shortage occupations, though experimentation has begun in a few areas with environmental, law enforcement, child-care, and construction occupations, all of which are considered national skills shortages.

(5) Employers have experienced few skills shortages over the past three years. The occupations they do cite are generally those in which there is a good deal of MDTA institutional training, and they are generally reflected on ES hard-to-fill order lists and want ads.

(6) Most Cooperative Area Manpower Planning System (CAMPS) committees in the areas visited were in a state of transition from an ES-dominated operation to a city, county, or state government operation. They had not yet begun to emerge as planning mechanisms. Their effect on the identification of occupations for MDTA institutional training was negligible.

(7) The only mechanisms available for taking employer needs into account are: CAMPS committees, MDTA advisory committees, employer surveys, and school technical committees.

  (a) CAMPS committees have not yet devised a mechanism for receiving employer inputs. In the past, employer participation in CAMPS has had public relations value but very little value in identifying or justifying institutional manpower programs. Most employers do not make occupational projections and know very little about employer needs in their own industries, to say nothing of other industries. The only way, therefore, to obtain valid employer input would be through the use of formal surveys.

  (b) MDTA advisory committees do not exist, or are not functioning, in 12 of the 14 sample areas.

(c) Employer surveys, mostly informal, are conducted by ES personnel, but only for justifying proposed new programs or the refunding of existing programs.

(d) With regard to school technical committees, these generally disband or become inoperative shortly after a course has been set up.

(e) The most important source of employer input into curricula is through instructor-employer relations. Many instructors have excellent relationships with employers in their particular trades. These relationships are invaluable in creating realistic course offerings.

(8) Union opposition to institutional training reduces the MDTA "world" by about 12 percent. Most of this opposition occurs in the construction and printing trades. Although unions do not have veto power over proposed institutional projects, union-controlled labor markets are generally considered "forbidden territory" by MDTA planners.

(9) Licensing and credentialing regulations do not reduce the MDTA "world" by a significant amount. ORC was unable to identify any labor protective laws or regulations which limit the ability of institutional training to respond to employers' needs.

(10) Although it is difficult to document barriers to MDTA training caused by employer hiring requirements, these were indications that in a loose labor market, employers use educational criteria, such as a

high school diploma, as a screen. In some areas, employer reluctance to hire minorities makes the placement process difficult. The most formidable employer barrier to institutional training is civil service regulations in the public sector.

(11) The most serious barriers to the institutional training programs are the following:

- (a) The lack of a system for collecting, synthesizing, and storing occupational information
- (b) The scarcity of funds
- (c) The short length of training coupled with emphasis on serving the disadvantaged
- (d) The tendency of newly created MDTA institutions to resist changes in occupational offerings

(12) Employers rate most MDTA graduates as "average or above"; more than 70 percent were rated as having an average or better promotion potential. On the debit side, nearly 16 percent were rated "poorly motivated," 13 percent "poor attitude," 16 percent "poor attendance," and 15 percent "poor in promptness."

(13) Employers said very little about the "timeliness" of institutional training. This is probably because the occupations in which MDTA trainees are hired are high-turnover jobs or large occupations in which there is a continuous number of openings on the market and an equal number of workers to fill them. It may also be because employers do not

consider MDTA institutional training a source for filling high-skill shortage occupations.

(14) Although the employer interview sample was heavily weighted in favor of employers who had participated in some aspect of the institutional training program, very few had been consulted regarding occupations in which training is being offered or in the planning and timing of such courses. A few had participated on CAMPS committees, but none on MDTA advisory committees. Many employers did state that they were connected with the National Alliance of Businessmen-Job Opportunities in the Business Sector (NAB-JOBS) program, or a local vocational education institution. Their participation in the planning of institutional training, however, was minimal.

Chapter Two

Introduction

The Manpower Development and Training Act is currently celebrating its tenth anniversary. Passed in March 1962 and first funded in September of that year, MDTA was the first (with the exception of a modest retraining program under the Area Redevelopment Act) of a series of programs initiated by Congress during the 1960s to solve or alleviate "manpower problems." The justification for the passage of MDTA, however, was different from the rationale used to justify manpower programs under the Economic Opportunity Act, with its Job Corps, Neighborhood Youth Corps, Operation Mainstream, New Careers, Special Impact, etc. MDTA was not designed as an "antipoverty" program; rather it was designed as a tool for alleviating the problem of "structural unemployment" caused by automation, changing consumer demands, and the movement of industries from their traditional sites to new areas of the country.

The basic rationale for MDTA was that while many workers were being displaced by one or more of these factors, employers in other industries were having difficulties in finding qualified workers in many occupations. The "obvious" solution was to retrain displaced workers to fill existing "shortage" occupations. The original thrust of MDTA, therefore, was to "enable unemployed persons, primarily heads of families, whose skills have become obsolete, to acquire new skills which are in demand in the labor market."[1] MDTA had other purposes: to aid underemployed workers (mainly rural) in improving and upgrading their skills, to assist youth 16 years of age and over (dropouts from high school), to acquire higher levels of preparation for permanent jobs in the labor market, and to conduct experimental and demonstration projects to aid those who later became known as "the disadvantaged" to become more employable. The major targets of MDTA, however, were unemployed and underemployed workers who had at least three years of experience in gainful employment and whose skills had become obsolete for one or more reasons.

To fulfill the purposes of MDTA, procedures were designed to identify "demand" or "shortage" occupations and to screen, select, and refer applicants for MDTA training. The Act provided that training be given only in those occupations for which there are "reasonable expectations of employment." Interpretation of this clause by the states varied, but for the most part it was given a strict interpretation; i.e., the states were reluctant to propose training programs unless they could prove beyond a doubt (even to the extent of requiring promises of jobs at the end of the training period in some cases) that there were reasonable expectations of employment in the occupational training proposed.

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[1] Bureau of Employment Security, U.S. Department of Labor, Manpower Development and Training Handbook (Washington, D.C.: U.S. Government Printing Office, August 27, 1962), ch. IV, p.1.

The guidelines for selecting applicants for MDTA training were equally strict. ES receptionists, counselors, and selection and referral officers were required to take into account such factors as "aptitude" (to be determined either by tests or occupational experience), "personal traits," "educational levels," and "motivation."[2] Clearly, "disadvantaged workers," as we have come to understand that term today, were excluded from early MDTA training.

Justification of the Act was based primarily on a relatively high and persistent unemployment rate during the 1950s and early 1960s and on the fear that technological advances would create even more displacement in the future. There were those who argued that economic growth, not manpower training, was the essential answer to employment problems, but the argument that much unemployment was structural in nature convinced Congress that MDTA should be passed into law.

There were corollary purposes which also had a bearing on the passage of the Act. MDTA became the foundation of an articulated federal policy on manpower development. The Act required that the President submit an annual Manpower Report to the Congress, similar to the Economic Report of the President, thus tying in use of the nation's human resources with policies directed toward achieving "full employment." It also provided for research experimentation and demonstration to discover, test, and disseminate solutions to manpower problems.

MDTA also sought to promote change within the nation's traditional public vocational education system. During the late 1950s and continuing into the 1960s, vocational education became the object of a great deal of criticism. It was charged that vocational education was training for obsolete occupations and that it lacked the flexibility to adapt to modern needs. One of the purposes of MDTA was to make possible short-term training in specific occupations which were in immediate demand and to provide vocational educators with greater flexibility in designing programs to meet current needs.

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[2] Ibid., pp. 9, 10.

MDTA was also the first of a series of acts which sought to change the focus of the federal-state ES system from a primarily employer-oriented to an applicant-oriented emphasis. Nevertheless, state ES agencies were also expected to identify and document employer needs (demand or shortage occupations) and to base training programs on those needs. ES agencies were required to identify potential training programs on the basis of job order and placement activities and to conduct employer and/or labor market surveys to verify employer needs in those occupations. ES R & S staffs were very much involved in conducting these surveys. In addition, DOL regulations required that MDTA advisory committees (composed of representatives of unions, employers, training institutions, ES, and the public) be created to advise on the appropriateness of training occupations which had been chosen and to suggest occupations which might be appropriate for training.

CHANGING EMPHASIS

When the economy picked up in the mid-1960s, it became increasingly apparent that persons with the most severe employment problems were those who had never participated fully in the American economy; i.e., the "disadvantaged." At the same time, new legislation passed by Congress, notably the Economic Opportunity Act, created new agencies throughout the country which began to pressure

MDTA administrators from the national to the local levels to place more emphasis on the employment problems of the "poor." The emphasis of MDTA, therefore, began to change from serving nondisadvantaged, displaced workers to training the disadvantaged, or from providing workers with advanced skills to providing the disadvantaged with those skills necessary for entry into the competitive labor market.

The change became complete following the riots which took place in American cities during the mid- and late 1960s. MDTA's regulations were changed in 1966 to provide that at least 65 percent of MDTA institutional enrollment should be drawn from the ranks of the disadvantaged. New ways of delivering MDTA training to the disadvantaged clientele were created. Among these were the following:

- Skills Centers: New institutions created primarily for training the disadvantaged. The Skills Center was designed as a one-stop center for manpower services. In addition to offering a variety of occupational courses, Skills Centers also provide basic education, prevocational training, counseling, language training, General Educational Development (GED) training, and some supportive services. Occupational offerings are divided into clusters, and entry to and exit from Skills Centers is open ended; i.e., a trainee can enter any time during the year and leave whenever he is "job ready." Skills Centers are funded on a yearly rather than on a project-by-project basis.
- Multi-occupational Projects: Similar to Skills Centers in that they offer a variety of occupational offerings; different only in that they do not conform to all Skills Center criteria (e.g., no clusters, supportive services, etc.).

Although 35 percent of MDTA funds were to be reserved for training in "selected skills shortages that accompany declining unemployment,"[3] the change in emphasis from the nondisadvantaged to the disadvantaged had profound effects on the systems designed to identify training occupations and to screen, select, and refer applicants to MDTA training. As early as 1964, Congress recognized that many ES agencies had interpreted "reasonable expectations of employment" in too strict a manner:

> To rely on judgment, even expert judgment, requires candid recognition of possible errors. This risk can be reduced through experience but not entirely avoided. On the other hand, endeavoring to reduce or eliminate the need for judgment in an effort to avoid error can only have the result of raising costs prohibitively through more and more information gathering. The resultant slowdown in the pace of the program may make it ineffectual. Obviously a balance between the risks is required, and securing such a balance returns us full circle to the concept of "reasonable" once more. There can be no other test if the challenge is to be met with imagination and dispatch.[4]

The effect of this expression of intent by the House Committee on Education and Labor was to relax ES regulations regarding the identification of training occupations. The advent of multi-occupational projects ("multi's") and Skills Centers, funded on a yearly rather than on a project-by-project basis, made it more complicated to perform employer and labor market surveys. Many, if not most, ES agencies ceased making formal surveys and began to rely increasingly on ES data, or on the performance results of existing projects, for justification of training occupations. R & S staffs became less involved in MDTA planning. The entire system for identifying training occupations became far less regimented than in the early days of MDTA. Likewise, screening procedures changed drastically. No longer could local office personnel put a premium on "personal traits," "motivation," "educational levels," or even "aptitude." The process became one of screening out the nondisadvantaged and giving priority to those whose personal traits, educational level, and degree of motivation qualified them as disadvantaged.

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[3] Select Subcommittee on Labor, House Committee on Education and Labor, Manpower Development and Training Act Amendments of 1966, Hearing on Report No. 14690, 89th Cong., Sec. Sess., 1966, p. 61.

[4] Report No. 861, House Committee on Education and Labor, 88th Cong., May 1964.

MDTA, in effect, became more client than employer oriented. Nevertheless, the system originally designed to identify potential training programs in occupations for which there are reasonable expectations of employment is basically the same today as it was ten years ago when the Act was passed, and of course, the system applies directly to the 35 percent of MDTA which is reserved for what Congress calls "skills shortages." This is true, even though ES agencies are no longer consistent in performing occupational surveys, and since the advent of CAMPS, MDTA advisory committees (once powerful in the determination of training occupations) have declined in importance and in many areas have ceased to function altogether.

This overall change in the emphasis of MDTA institutional training is of great significance to this particular project--an evaluation which purports to measure the effectiveness of institutional manpower training in meeting employers' needs in skills shortage occupations. Certainly, concentration on the disadvantaged is bound to have an effect on the program's effectiveness in selecting training occupations which meet the needs of both the program's clientele and employers and in gaining employer acceptance of the program's graduates.

SUMMARY OF CURRENT EVALUATIONS

MDTA is currently undergoing a series of evaluations, including the following:

- Systems Evaluation: This study, conducted by North American Rockwell Information Systems Corporation (NARISCO), has been completed. It examines all systems (federal, state, and local) established to administer the institutional manpower training program.
- Skills Centers: This evaluation, conducted by ORC, has also been completed. It assesses the effectiveness of MDTA Skills Centers in preparing the disadvantaged for jobs in the U.S. labor market.
- Relevance and Quality of MDTA Training: The relevance and quality project, performed by MENTEC Corporation, examines all MDTA institutional training (Skills Centers, multi's, experimental and demonstration [E & D], and individual projects) in 14 labor market areas. It has also been completed.
- Outcome Study: Decision Making Information (DMI) has completed a follow-up study on 5,000 former enrollees to determine the effect of MDTA training on their employment stability and earnings.
- Individual Referral: ORC is currently conducting an evaluation of the individual referral method of delivering institutional training. It is scheduled for completion in July 1972.
- Basic Education: NARISCO is currently conducting an evaluation of basic education components of institutional training. It is also scheduled for completion in July 1972.

Each of these evaluations addresses itself to a specific aspect or component of institutional training. This report examines the effectiveness of institutional training in meeting employers' needs in filling skills shortage occupations. Its focus is not the MDTA applicant or the various components of institutional manpower training programs but the value of institutional training to employers. Its four broad objectives are as follows:

- To identify occupations in which there are persistent local and regional shortages of workers with the requisite skills available to employers and which are suitable to institutional manpower training programs
- To determine and quantify the extent to which training has been conducted in these occupations
- To assess the effectiveness of institutional manpower training in providing adequately trained and job-ready manpower on a timely basis in response to employers' needs in the occupations identified as "shortage" occupations
- To identify and define those features of common or broad applicability which are the principal inhibitors of program effectiveness. This includes not only factors which are inherent in program concept, design, and operation, but also external factors such as labor market conditions, hiring and employment practices, credentialing, etc.

These four broad objectives, as stipulated in the DOL request for a proposal (RFP), involve answers to the following specific questions:

- What occupations (for which MDTA institutional manpower training is feasible under existing legislation) are among the shortage occupations? Are there other shortage occupations which could feasibly be part of an institutional manpower training program? Why are they not represented? What proportion of institutional manpower programs (by projects and trainees) are for these occupations?

- Have workable forecasts of expanding industries and occupations been available to institutional manpower program planners?
- What are the program guidelines currently in effect with respect to training for shortage occupations? What are the sources of these and how were they used?
- What are the skills needs and shortages most frequently cited by employers in the local areas? To what extent are these common to all or many areas? Are these generally reflected in the various labor market reports of skills shortages? To what extent are the cited shortages in occupations characterized as marginal or unacceptable for training as defined by the Manpower Administration?
- To what extent do local ES, school authorities, and CAMPS committees take these local needs and shortages into consideration in planning MDTA courses? What mechanisms are there for taking employer needs into account in planning courses? Are these mechanisms being used? If so, how effectively? If courses needed in the local setting are not being given, what are the reasons?
- What are the perceptions of employers: with respect to the performance of employees obtained from institutional manpower programs; in regard to

their motivation and orientation toward the work place; in regard to the extent to which they are trained in the actual skills needed by employers; in regard to the principal reasons for poorly trained employees?

- To what extent do employers indicate that they have had an influence on the occupations in which institutional training is offered?

This report addresses itself to these specific questions in attempting to fulfill the four overall objectives of the evaluation.

PROBLEMS IN PERFORMING THE SKILLS SHORTAGE EVALUATION

The DOL RFP called for fieldwork in 14 metropolitan areas located in every region of the nation. It also called for the contractor to interview 25 employers in each of the sample areas.

The major objective of the evaluation is "to identify occupations in which there are persistent local and regional shortages of workers with the requisite skills available to employers and which are suitable to institutional manpower training programs." If this objective is to be accomplished, the attempt must be made to focus on individual occupations; i.e., actual jobs that have been or are available in the sample areas. Analyses of occupational areas, overall clusters of jobs, or overall industrial breakdowns would not provide the necessary information. Nearly all current R & S operations are geared toward contributing to total aggregates of data, national or state trends, etc. Such information is of extremely limited value to local planners and to evaluators who are charged with measuring the effectiveness of a program at the local level.

Associated with this problem is the ambiguity of key terms such as "demand," "skills shortage," and "high turnover." This problem has been explored in Chapter One. For the purposes of this evaluation, ORC accepted the definition contained in DOL's RFP; i.e., "occupations in which there are persistent local and regional shortages of workers with the requisite skills available to employers." However, if this definition is to be useful, a good deal must be known about each occupation which turns up on "demand" lists.

For example, building trades occupations often appear on ES hard-to-fill order lists and in want ads, but in most cities, vacancies in these occupations are filled by means of union hiring hall arrangements. Job openings which are filled in this manner are seldom listed with ES or in want ads. Those that do appear on ES lists and in want ads could be one of the following:

- Requests for skilled craftsmen at prevailing wages, fringe benefits, and conditions of employment, including working conditions
- Requests for skilled craftsmen below prevailing wages, fringe benefits, and conditions of employment
- Requests for craftsmen with skills less than those placed through hiring hall arrangements
- Requests for semiskilled workers or laborers under the craftsman title
- Requests for skilled union craftsmen to "moonlight" on nonunion jobs

Only the first of these could be considered a skills shortage, but even it might not be if:

- Prevailing wages and working conditions may be too low to attract sufficient supply

- Artificial barriers may exist which prevent workers from gaining entry to the occupation
- In the case of apprenticeship programs, the prescribed training period may be too long, thus reducing the number of apprentice openings and the matriculation of journeymen out of apprenticeship programs

Presumably, if the shortage became adequately severe, it would be alleviated by improving wages and working conditions, eliminating entry barriers, and reducing the period of training.

By examining ES hard-to-fill order lists, want-ad analyses, and employer interviews, ORC identified thousands of occupations which appeared to be in demand in the sample areas. Since it was impossible in a week's time to obtain all the information about each of these occupations necessary to make a determination as to whether the demand was caused by "shortages of workers with the requisite skills," by "high turnover," or by other reasons, the term "skills shortage" began to lose meaning. In other words, occupations on these lists appear to be demand occupations; i.e., occupations in which employers are actively recruiting. The reasons why employers are recruiting, however, is open to speculation. Among the reasons could be the following:

- Legitimate Skills Shortage: There is insufficient supply of workers with the requisite skills.
- High Turnover: A steady flow of job orders on the open market which are continually being filled. The reasons for high turnover could include the following:

- -- The size of the occupation; i.e., the occupation is so large that even if the turnover rate is low or moderate, normal attrition creates a steady flow of new openings.
- -- The nature of the work force; e.g., women in clerical and health occupations. As women leave the job market to get married, have babies, or raise families, there are at least as many women entering or reentering the labor force to take their places.
- -- The nature of the job; e.g., low wages, poor working conditions, hazardous conditions, heavy physical labor requirements, etc.

A high-turnover job could require substantial skills; e.g., secretary, stenographer, hand sewer, or mechanic. It could also require few skills yet be considered a desirable occupation; e.g., a "checker" in a unionized supermarket or a longshoreman (which requires mainly hard physical labor). On the other hand, it could require minimal skills in nondesirable occupations; e.g., busboy, dishwasher, and some laboring jobs.

The occupations cited in this report, therefore, are demand occupations. Whether they are legitimate skills shortages or high-turnover occupations is impossible to determine. Some of the occupations obviously have "substantial skill content," but whether those skills are in short supply in the various sample areas could not be ascertained with certitude within the time constraints of the evaluation. If the existing system produced sufficient information to make an assessment of demand occupations, it might have been possible to identify some of them as legitimate skills shortages. However, it is a major finding of this study that no such system exists. In pursuit of such information, the following working definitions were used:

- Demand Occupation: Occupations in which there is sufficient action (job orders, referrals, placements) in the market to ensure the probability that individuals would find employment in these areas
- High-Turnover Occupation: Occupations in which there is a steady flow of job orders to the open market and which are continually being filled. There are numerous reasons why the turnover may be high: the size of the occupation, the nature of the work force, or the nature of the job.
- Skills Shortage Occupation: Occupations in which a persistent shortage of workers with the requisite skills are signaled by wages rising more rapidly than the average or evidence of other employer efforts to fill the openings.

The contract called for demand information to be collected for three fiscal years: 1969, 1970, and 1971. Yet in almost every area, ES agencies which have the primary responsibility for collecting and synthesizing occupational information were in various states of transition:

- The adaptation by state agencies and their local counterparts of new information systems (Job Bank, JOLT, ESARS, etc.) were in various states of transition. In some areas, Job Bank had been in operation for three years; in others there was no Job Bank, or it had only recently been installed. In all areas, JOLT and ESARS were still in the initial stages of imperfection.
- The recognition of the need for detailed data regarding occupations at the local or regional level varied from one agency to another. At least one agency had adopted a rather advanced and sophisticated approach to this problem. Other agencies were still "playing by the seat of their pants." Most agencies fell somewhere between these two extremes.

- A few agencies resembled prepoverty program "traditional" ES operations; others were comprehensive model (COMO) cities or had adopted other innovative approaches for serving their designated clientele.
- Almost all of the agencies had undergone several reorganizations over the past five years. They had been through the Human Resources Development (HRD) concept, Youth Opportunity Centers (YOCs), Adult Opportunity Centers (AOCs), Job Bank, ESARS, Employability Teams, Work Incentive Program (WIN), Concentrated Employment Program (CEP), etc., and had been constantly adapting to changing emphases; e.g., the switch from serving displaced, nondisadvantaged workers to serving the disadvantaged, and more recently, the switch in emphasis from the disadvantaged to returning veterans.

These factors made it difficult to collect uniform information in all sample areas.

To supplement information collected from public agencies, ORC interviewed a minimum of 25 employers and performed three-year want-ad analyses in each of the sample areas; in addition the teams examined NAB-JOBS contracts, Jobs Optional Program (JOP) contracts, and interviewed chambers of commerce and union representatives. The two major methods of collecting supplemental information, however, were the employer interviews and the want-ad analyses, both of which had major limitations:

- A sample of 25 employers in any labor market area is admittedly small; in large cities such as Dallas, St. Louis, New Orleans, and Milwaukee, it is miniscule. Furthermore, employers tend to be vague about "skills shortage."

Of the more than 355 employers ORC interviewed, only a few could remember whether they experienced skills shortages in fiscal years 1969 and 1970. As for the current year, they tended to "speak off the tops of their heads," not taking into account the quality of various jobs. This may be due to the generally depressed economic conditions that existed at the time the fieldwork was prepared; it may also be because the introduction of advanced machinery has made it possible for employers to hire lower skilled workers than in the past. In other words, the term "skills shortage" may no longer have the significance it once had in the days that preceded automation.

- The vast majority of the "large" employers interviewed (500 or more employees) were either members of personnel departments or were corporate officers. In many cases their knowledge of occupational information was limited. In medium-sized firms (50 to 499 employees), employers were about equally divided among owners, personnel staff, and line supervisors (foremen). In small firms (less than 50 employees), all but a few were owners. Even owners and foremen, however, had little to offer regarding occupations outside their firms or particular responsibilities within firms.
- Although the want-ad analyses turned up some significant information, they are too limited because not all employers use the want ads, and those who use them do not do so for all occupations.

These factors were not immediately apparent to the evaluators; they were discovered gradually after several sample areas were visited. Although evaluation teams attempted to compensate for gaps in data and for the lack of uniformity in the data collected, these compensatory attempts were vitiated by the very illusiveness of the subject matter itself.

THE EVALUATION METHODOLOGY

The methods used to carry out specific objectives of the RFP will be described in each of the subsequent chapters. This section describes in broad general terms ORC's approach to the evaluation, which was carried out in the five phases discussed below.

Phase I: Collecting Data

Phase I consisted of collecting data at the national level, designing and developing research instruments, selecting pretest sites (in cooperation with DOL and the Department of Health, Education and Welfare [HEW], and completing the staffing. It was decided that the fieldwork would be carried out by two research teams but that both teams would operate as a single unit during Phase II.

Phase II: Pretest

Phase II consisted of a pretest in two cities, Duluth, Minnesota, and Dallas, Texas. After the pretest, research instruments were revised for Phase III.

Phase III: Fieldwork

Major fieldwork in 12 cities was carried out during Phase III. One week was spent in each city. The following information was collected and interviews conducted in each of the cities:

- MT-1: Information was extracted from all MT-1s (funded and nonfunded) for fiscal years 1969 through 1971.

- Performance Information: Performance information (total enrolled, completions, dropouts, placements of completers, training-related placements, and follow-up information) was collected for all projects funded for the past three fiscal years.

- ES Demand Information: The following kinds of demand information were collected from ES agencies:

  - -- Demand lists: ES lists of demand occupations from AMRs and other sources
  - -- Hard-to-fill job orders: All lists of hard-to-fill job orders, including the reasons why the jobs were hard to fill
  - -- Breakdown of job orders received from employers: Generally obtained from analyses of Job Bank monthly optional reports on unfilled job openings
  - -- Breakdown of ES placements: Obtained from analyses of the same Job Bank table above
  - -- Occupational projections: Obtained for a few areas; however, most made on a statewide basis and of little practicable use to local MDTA planners or to the evaluators
  - -- ESARS information: An attempt was made to collect pertinent ESARS information; however, most states were reluctant to release ESARS tables because the system had not yet been perfected, and much of the information was inaccurate.

  - JOLT information: An attempt was made to collect job vacancy information from JOLT tables. However, occupational information was available for only four cities, and of these, only two broke down the information by four-digit DOT codes. Two cities broke occupational information down by overall occupational groupings, not useful to local planners or to the evaluators.

- ES Interviews: ES interviews were designed primarily to ascertain the extent to which R & S staffs are used in making occupational surveys, ascertaining the methods used by ES personnel in identifying training occupations, assessing the quality of jobs found to be demand occupations, and ascertaining the views of local office managers and line personnel on the effectiveness of institutional training. A total of 278 interviews were conducted with ES personnel at all levels.

- Employer Interviews: Interviews were conducted with a minimum of 25 employers in each area (total 355). The interviews were designed to extract the following kinds of information:
  - Demand information: Skills cited by employers to be in short supply
  - Recruiting sources: ES, want ads, private employment agencies, walk-ins, and so forth
  - Projections: Projections of future occupational needs by employers (if any)
  - Characteristics of the employers' personnel: Total size, male/female, age distribution, minority distribution, occupational classification

- Personnel practices: Internal training programs, screening practices, layoff and recall history, promotion policy, and so forth
- Experience with MDTA programs: Participation in planning, experience with MDTA graduates, participation in training, assessment of institutional manpower training program
- Public employers: Differences in operation between public and private employers
- Effects of skills shortages: How employers compensate when they experience skills shortages
- Employer classification: Classification of employers interviewed by Standard Industrial Code (SIC)

- Want-Ad Analyses: Want-ad analyses of major newspapers in each area visited were made to help shed light on occupational demand for the three fiscal years in question.

- Other: Interviews were conducted with representatives of the following agencies: NAB-JOBS (contracts also examined), JOP (contracts examined), WIN, CEP, apprenticeship, CAMPS, MDTA advisory committees, chambers of commerce, unions, state and local vocational education officials, and on-site directors of training institutions. In the "other" category, a total of 107 persons were interviewed.

Altogether, ORC staff interviewed a total of 713 persons during the course of this evaluation.

Phase IV

Phase IV consisted of compiling and analyzing the data collected both in the field and in the national office.

Phase V

Phase V consisted of the preparation and presentation of the final report.

ORGANIZATION OF REPORT

The remainder of the report addresses itself to each of the specific objectives mandated by DOL. The material is arranged in five chapters. Chapter Three reviews the economic conditions existing in each of the 14 cities during fiscal years 1969 through 1971.

Chapter Four examines the system (or systems) existing for determining demand and skills shortage information. This chapter examines MDTA institutional guidelines, the relationship of research and statistics operations to institutional manpower training program planning, the MT-1 process, employer and union participation in planning, local office participation in the planning process, analyses of Job Bank and JOLT information, methods used by ES personnel to determine "suitability," and opinions of line ES staff on the overall operation of the institutional manpower program.

Chapter Five summarizes the demand information ORC was able to compile from all sources (ES data, employer interviews, want-ad analyses, etc.) and matches it with MDTA training conducted in each of the sample areas. Drawing on material contained in previous chapters, Chapter Five attempts to outline the principal inhibitors of the institutional manpower training program.

Chapter Six examines the overall effectiveness of the institutional program in meeting employers' needs and in filling skills shortage occupations. This chapter draws on material obtained from employer interviews and examines enrollee characteristics and performance.

Chapter Seven presents the results of ORC's employer interviews. Because the employer interviews are pertinent to virtually all the objectives and go beyond in some areas, it was felt that the employer interviews should be the subject of a separate chapter. Statistical material not included in the body of this report is contained in the Appendix.

Chapter Three

The Setting

The success of an institutional manpower program, aside from the quality of the program itself, depends on many outside factors: the quality of supply, industrial trends, trade union policy, political climate, quantity and quality of other training resources, employer hiring policy, custom governing entry to and promotion within various industries, and of course, general economic conditions. Each sample area shares some similarities, but it is their uniqueness which is paramount to local planners and to evaluators who must weigh their findings regarding any given area according to all unique factors affecting that area. The following discussions are an overview of some economic factors affecting the 14 sample areas and brief descriptions of each area.

OVERVIEW

This evaluation took place during a national economic downturn which, of course, had an effect on the very existence of skills shortages. Table 3-1 shows that all 14 SMSAs experienced an increase in unemployment between calendar years 1969 and 1970. The increase in 12 of the areas was 1 percent or higher. Only two areas, Montgomery, Alabama, and Fresno, California, experienced an increase of less than 1 percent. Fresno, however, had the second highest unemployment rate of the 14 areas in all three calendar years; its unemployment rate

TABLE 3-1

Unemployment Rates and Total Labor Force Figures
(Fourteen sample areas)[a]

SMSA	Percentage of Unemployment Rates[b]			Total Labor Force	Percentage of Growth since 1968
	1968	1969	1970		
National average	3.6%	3.5%	4.9%	82,715,000	5.1%
Anchorage	7.9	7.0	8.3	51,398	23.9
Dallas	1.6	1.5	2.8	754,800	12.0
Duluth	3.9	3.7	4.5	49,200	1.7
Fresno	6.5	5.8	6.5	184,200	3.2
Miami	3.2	3.0	4.4	622,300	13.3
Milwaukee	2.7	2.7	4.2	643,200	4.0
Montgomery	2.9	2.6	3.0	86,200	3.7
New Haven	3.4	3.4	4.8	183,850	5.2
New Orleans	4.3	4.6	5.8	437,200	2.7
Paterson	4.1	4.1	5.3	601,501	6.9
Rochester	2.2	2.4	3.5	378,700	(-3.2)
St. Louis	3.4	3.5	5.4	1,043,800	2.4
Salt Lake City	4.8	4.5	5.0	221,830	7.3
Wilmington	3.3%	3.0%	4.0%	218,500	3.8%

[a] Data collected by Olympus Research Corporation.

[b] Calendar years

in 1970 was 6.5 percent. Five areas had unemployment rates consistently above the national average, two were about the same, and five were consistently below. The range was from a three-year average unemployment rate of 2.8 percent in Dallas to 7.7 percent in Anchorage.

Two-year labor force growth rates from 1968 to 1970 also varied widely among the 14 areas. Six exceeded the national rate (5.1 percent) and three by a considerable extent (Anchorage, 23.9 percent; Miami, 13.3 percent; Dallas, 12 percent). The labor force declined in one SMSA, Rochester (-3.2 percent), and remained about the same in one area, Duluth.

The percentage of minorities in the labor force (Table 3-2) ranged from a low of 1.7 in Duluth to a high of 44.1 in the city of Wilmington (only 12.6 percent of the Wilmington SMSA labor force is minority). Minorities compose 20 percent or more of the labor forces of eight areas: Dallas, 20.2 percent; Fresno, 35 percent; Miami, 30.5 percent; Montgomery, 35.1 percent; New Orleans, 31 percent; the city of Rochester, 34.4 percent; and the city of St. Louis, 41.3 percent.

Most of the areas have experienced similar population and industrial trends. Population is increasing in the suburban areas and either decreasing or remaining about the same in the inner cities. Likewise, industry is moving from the inner cities to more spacious parts of the SMSAs. In general, manufacturing employment is on the decline, while employment in trade, government, and service is increasing. Finally, the percentage of disadvantaged minorities in the inner cities is increasing at a rapid rate. As a result, unemployment rates for the

TABLE 3-2

Total Population and Minority Composition
(Fourteen sample areas)[a]

SMSA		Total Population	Minority	Percentage of Total Population
Anchorage		110,632	10,493	9.5%
Dallas		1,553,950	314,300	20.2
Duluth		100,578	1,727	1.7
Fresno		421,500	147,600	35.0
Miami		1,267,792	385,990	30.5
Milwaukee		1,054,063	123,200	11.7
Montgomery		201,325	70,607	35.1
New Haven		355,538	43,630	12.3
New Orleans		1,073,647	332,831	31.0
Paterson		1,358,794	83,384	6.1
Rochester	(area)	882,667	119,935	13.6
	(city)	296,233	101,762	34.4
St. Louis	(area)	2,363,017	387,872	16.4
	(city)	622,236	257,244	41.3
Salt Lake City		557,635	11,710	2.1
Wilmington	(area)	499,373	62,899	12.6
	(city)	80,386	35,485	44.1%

[a] Data collected by Olympus Research Corporation.

center cities are far higher than for the SMSAs as a whole, and the unemployment rate for minorities is almost twice the SMSA rates.

Table 3-3 shows the nonagricultural employment breakout for the 14 sample areas.

AREA DESCRIPTIONS

Duluth, Minnesota

Duluth was the first of ORC's two "pretest" cities, and in its own way was different from the other sample areas. The Duluth economy has been variously described as "stable," "stagnant," or "generally depressed." Isolated from the economic forces that affect most of the nation, Duluth did not benefit from the boom of the 1960s, but neither did it suffer from the 1970 cutbacks. The Duluth economy has not changed much since 1960; it is primarily a "working class" city with a large "ethnic" population but very few blacks, Latin Americans, or other minorities. During the 1960s, the population of the Duluth SMSA declined by almost 6 percent.

Employers in the area think highly of both the area vocational school and ES. Most employers stated that ES does a better job of screening than private employment agencies--the opposite of employer opinion in most of the other sample areas. It is estimated that the one local ES office accounts for approximately 90 percent of the clerical placements in the city.

Approximately one-fifth of the labor force are dues-paying union members. Most blue-collar jobs are in "job shops" and require higher levels of skills than those required for factory production work.

TABLE 3-3

Annual Average for Employment Areas, 1970 (Percent distribution)[a]

Fourteen Sample Areas	SMSA Nonagr. Wage & Salary Workers[b] (Thousands)	Mining	Contract Construction	Manu-facturing	Transportation, Pub. Util., & Commun.	Wholesale & Retail: Total	Finance, Insurance, Real Estate	Services	Government: Total
National TOTAL	70,616.0	1	5	27	6	21	5	16	18
Fourteen SMSA TOTAL	4,686.7	1	5	27	8	23	5	17	14
Anchorage	42.0	2	8	2	9	20	5	15	37
Dallas	657.9	1	6	24	8	26	8	16	11
Duluth	55.9	(c)	5	18	13	24	3	19	19
Fresno	117.8	1	4	15	7	27	5	18	24
Miami	504.7	(e)	6	15	11	27	7	23	11
Milwaukee	570.3	(c)	4	36	5	21	5	16	13
Montgomery	68.9	(c)	7	15	6	23	6	16	27
New Haven	158.8	(d)	5	27	9	20	5	21	12
New Orleans	374.0	4	6	14	12	24	6	18	15
Paterson	507.5	(e)	4	17	5	24	4	15	[illegible]
Rochester	347.2	(c)	4	42	4	18	4	16	14
St. Louis	898.8	(e)	4	31	7	21	5	17	14
Salt Lake City	192.0	4	5	15	8	26	6	17	[illegible]
Wilmington	190.9	(c)	6	36	5	20	4	14	14

[a] Data collected by Olympus Research Corporation.
[b] This number = 100%.
[c] Mining totals are included with services.
[d] Mining totals are included with construction.
[e] Total is less than 0.005 percent.

Seasonal factors influence the employment picture in Duluth. Employment in lake shipping (Duluth is located on Lake Superior), construction, and tourist-related industries reach a low in winter and peak during the summer months. During the last two years of the 1960s, the unemployment rate was above the national average, but in 1970, it was 0.4 percent below the national average. The growth areas have been in government, medical services, and food processing. Declines have occurred in transportation (which is becoming automated) and in manufacturing, due to the closing of a single plant. There are several large employers in the Duluth area, and a decision to "pull out" or expand by any one of them can cause major changes in the city's employment picture.

Manpower programs in Duluth are somewhat moribund. For example, there were only four contracts consummated under the NAB-JOBS program in fiscal years 1969 through 1971. CEP, WIN, and an MDTA Skills Center operate as best they can within a relatively negative economic setting.

Duluth's economic situation is not expected to change greatly in the future. An expected expansion in food processing will probably be offset by an anticipated cutback by United States Steel of 1,000 employees. Other than changes of this nature, the growth in employment is expected to continue, as it has in the past, with annual increases of less than 1 percent.

Dallas, Texas

The economic situation in Dallas, ORC's second pretest city, is nearly the opposite of Duluth. During the 1960s, the population of Dallas grew by almost 40 percent. Until 1970, there were job opportunities for nearly anyone in all occupational classifications. A large proportion of the increase in population was caused by people moving to the city of Dallas for employment. In fact, the labor force participation rate rose from 42.8 percent in 1960 to 49.0 percent in 1970. The Dallas unemployment rate fell below 2 percent during the period 1967 to 1969 and, though it has risen in recent years, the unemployment rate has remained well below the national average.

The major industries in manufacturing are electronics and food products. Insurance, construction, and medical services are also major sources of employment in the Dallas area. Construction is for the most part nonseasonal and, unlike most other cities included in the sample, is predominantly nonunion. In fact, unions play a lesser role in Dallas than in any other of the sample cities, with the possible exception of Montgomery. Both Texas and Alabama are "right-to-work" states.

Although Dallas has the lowest unemployment rate of any of the sample areas, the major brunt of unemployment is borne by the area's minority population. Approximately 20 percent of the Dallas SMSA's labor force is either black or Mexican-American, but the percentage in the city of Dallas itself is much higher. Most of Dallas' manpower programs are directed toward this population. Dallas has the largest NAB-JOBS program of any of the areas visited, an Opportunities Industrialization Center (OIC) and an MDTA Skills Center. Operating in a relatively favorable economic climate, Dallas' manpower programs are nevertheless addressing themselves to a clientele that suffers severe educational, language, and other disadvantages.

The economic outlook for Dallas is good. A new airport is being constructed between Dallas and Fort Worth, and some employers are making plans to relocate near the airport. In addition, Hunt Properties is planning a $500 million business and residential development in the northern part of Dallas County. While growth in manufacturing has slowed, increases in construction, trade, finance-insurance-real estate, services, and government are expected to increase in the future.

Anchorage, Alaska

Forty percent of Alaska's labor force is located in the state's largest city, Anchorage. Bounded by the waters of Cook Inlet on three sides and by the Chugach Mountains to the east, Anchorage is a port city as well as the headquarters for the Alaskan Railroad. Because of its location near the polar cap, its international airport serves as a stopover for flights between Europe and the Orient. Since 1968, the Anchorage labor force has grown by almost 24 percent, far in excess of the national average of slightly more than 5 percent. The population of the state of Alaska as a whole has increased by almost 40 percent during the 1960s.

Unemployment, however, is one of Anchorage's most severe problems. In 1970 its unemployment rate of 8.9 percent was a full 4 percent above the national average. Part of the problem is caused by the "temporary" or transient nature of the civilian labor force; e.g., the dependents of military personnel, stationed at Elmendorf Air Force Base and Fort Richardson, find jobs in clerical and medical occupations. "Frontier transients" come and go, as do Alaskan natives moving from rural villages for short periods of time. In addition, increases in federal expenditures for construction and other activities often attract job seekers from the "lower 48" states. Counteracting the seasonal tendencies are government payrolls and, in construction, new methods and materials which have extended the season for this type of activity.

Employment figures reflect primarily the activity of government which accounts for almost one-third of wage and salary employment. In addition, government funds contribute significantly to the contract construction industry. Construction activity has been spurred by urban renewal projects resulting from the 1964 earthquake. Anchorage is the state's transportation, trade, and finance center. There is very little manufacturing in the area, and that which does exist serves primarily to support construction (e.g., prefabricated building materials, lumber, petro-chemical products, and stone-cement). The largest nongovernment employers are in the production and preparation of food products, retail sales, medical services, and finance.

Anchorage is a strong union city. The predominant unions are the building trades and the International Association of Hotel and Restaurant Workers. The latter claims a membership of 1,500 of Anchorage's 8,000 union members. Most construction hiring is done through the union hall; however, because much construction activity is the result of government contracts, Equal Employment Opportunity (EEO) compliance pressure is high. There is a Building Trades Outreach Center and a labor-management operation to recruit, screen, and train minorities.

Most of Anchorage's manpower programs are directed toward its native population--Eskimos, Aleuts, and Indians. It is expected that the migration of native children into Anchorage from rural villages will increase substantially in the years ahead. Alaska's natives suffer not only from educational deficiencies but also from what has been termed "culture shock," severe problems in adjusting from a traditional "close to nature" life-style to Western European manners and mores. Most MDTA institutional training in Anchorage is contracted to the community college, although a residential Skills Center in Seward (more than 90 percent native) serves all of Alaska, including Anchorage.

Anchorage's future growth depends to a great extent on the proposed North Slope oil pipeline, increases in mineral development (which would be made possible by access roads created as the result of the construction of the pipeline), and an increase in tourism and supportive industries.

Paterson, New Jersey

The figures in Tables 3-1 and 3-2 for the Paterson-Clifton-Passaic SMSA, which includes Bergen and Passaic counties, do not give a true picture of the city of Paterson itself. One concept of a true picture is expressed by an official of the New Jersey State Employment Office who said that Paterson, the oldest industrial city in the United States, is physically dying. He termed Paterson a cancer in a growing and flowering area, though the only growth in the city is that of minority groups or those who are on the lowest rung of the economic ladder. His concern is that Paterson's only incoming industries are parasites that prey on the poverty stricken, and he labels Paterson as an isolated, disadvantaged, dying city.

At one time, Paterson was one of the nation's great textile centers and boasted of its supply of skilled weavers. Today, most of the mills are closed, and skilled weavers are a dying breed. The unemployment rate for the SMSA in 1970 was 5.3 percent, but the rate for the city of Paterson was substantially higher. The percentage of minorities in the SMSA is only 6.9 percent, but the percentage for Paterson is estimated at more than 20 percent.

The contrast between Passaic County, in which Paterson is located, and Bergen County is dramatic. Bergen County is one of the nation's wealthiest. Well over 30 percent of its labor force commutes to New York City. The cities of Paterson and Passaic, on the other hand, show all the signs of major economic upheavals and population changes. Major industries have moved out of the inner cities, and transportation for the population who remained is inadequate. In January 1971 the entire area was classified as a "labor surplus area."

Manpower program administrators are confronted with what seem to be insurmountable problems. In recent years, Paterson has absorbed a large increase in severely disadvantaged people, including Puerto Ricans with language problems. During the same period, industry has moved out of the city, and even if transportation were available, Paterson's disadvantaged workers would have difficulty competing for jobs in the area's depressed economy. The city even lacks facilities for a manpower training program. Paterson's MDTA multi-occupational project is located in a new vocational facility outside the city. Transportation to and from this facility is a major problem for MDTA enrollees.

During the 1960s most of the rise in employment took place in the nonmanufacturing sector, especially in trade, where shopping centers and the relocation of New York City distributing firms were the most important factors. In manufacturing, additional employment came in chemicals, machinery, fabricated metals, printing, food, and apparel. During the first part of the 1970s, there was a decline in aerospace, textiles, and apparel. Nonmanufacturing has made steady gains. The employment area predicted to grow the fastest is services (medical, health, business, and education), while manufacturing is anticipated to grow only slightly. The area is heavily unionized in the blue-collar trades, and in the present economic situation, unions are not favorably inclined toward training projects which would further "glut the market."

New Haven, Connecticut

New Haven's economic climate is a good deal brighter than that of Paterson, but it shares similar problems. Again, the figures in Tables 3-1 and 3-2 do not reflect the situation in the city of New Haven. The city's minority population is approximately double that of the SMSA, or more than 20 percent. The unemployment rate among minorities in the central city is nearly twice that of the SMSA average, or about 9.6 percent. As Paterson was once a textile center, New Haven was once one of New England's great shoe manufacturing centers; today, only three shoe factories remain. Shifts in population and industry to suburban areas have also affected the New Haven central city area. Although urban renewal has created a "model" downtown area, unmistakable signs of urban decay surround the model area in neighborhoods where the majority of the area's blacks and Puerto Ricans live.

Despite the fact the New Haven's antipoverty program started two years before the passage of the Economic Opportunity Act (with a grant from the Ford Foundation), the city experienced a riot in 1967. Moreover, one of the city's primary employers of blacks and Puerto Ricans, Yale University, suffered a major and relatively vitriolic strike in 1971.

The in-migration of disadvantaged families from the South and from Puerto Rico, coupled with the shift of industries to suburban areas, is the major cause of New Haven's problems. These problems are aggravated by an inadequate transportation system and the inability of minorities to find entry into the area's heavily unionized occupations.

The largest employment sectors are in nonmanufacturing: service, government, and trade. Unemployment rates between 1968 and 1970 have remained very close to the national average.

The major supplier of manpower services in New Haven is Community Progress, Inc. (CPI), the area's community action agency, and the direct descendant of the agency established by the original Ford Foundation grant. Many of the manpower programs funded under the Economic Opportunity Act were first tried out in New Haven by CPI. Most MDTA institutional training is conducted in CPI facilities, and CPI is the prime sponsor of such programs as OJT, Neighborhood Youth Corps, New Careers, Work Experience, WIN, Operation Mainstream, and NAB-JOBS.

There are not likely to be significant changes in New Haven job markets. The existing trends will continue, with the additions and expansions tending to be in the suburban areas, compounding the existing problems in the inner-city neighborhoods.

New Orleans, Louisiana

New Orleans is located in an urban-industrial SMSA that is surrounded by rural areas. During the 1960s, the city's white population remained about the same, but its black population increased substantially. The suburban areas, on the other hand, show the same rate of increase in total and in minority population. Altogether, minorities (mainly black) account for 31 percent of the population of the SMSA.

Employment in New Orleans is dominated by the shipbuilding industry in the durable category and by food products in nondurables. The largest areas of employment are in trade, service (medical, educational, and business), and state and local government. Manufacturing accounts for only 15 percent of total employment. In August 1971, New Orleans was designated as an area of "substantial unemployment." Its rate of unemployment during the years 1968 through 1970 has been between 0.7 and 0.9 percent above the national average.

Most of New Orleans' institutional training is carried on at the CEP Skills Center (not designated as an MDTA Skills Center), although there are some class-size projects and individual referrals. The area has an active MDTA advisory committee and CAMPS committee. Union participation in MDTA planning is more active than in most other areas. The ES system for making employer surveys is more organized in New Orleans than in most of the other sample areas.

Because CEP is the prime sponsor of most institutional training, most enrollees are drawn from the CEP target areas and are classified as disadvantaged.

The vast majority of the enrollees in the CEP center are black and suffer from severe educational and other deficiencies.

The major areas of growth during the past five years have been in shipbuilding, service (hotel and motel), and trade. Most of this growth has occurred in the central city, although substantial growth has also taken place in the outlying areas, even beyond the SMSA. The most significant decline has been in aerospace, due mainly to National Aeronautic and Space Administration (NASA) cutbacks. For the present, construction has been given a boost by the building of a new sports "superdome." When this sports complex is completed, hotel and motel services are expected to benefit from increased tourism.

Montgomery, Alabama

Montgomery, "the seat of the Confederacy" and the capital of the state of Alabama, has lost population during the 1960s, although the population of the Montgomery SMSA has gained slightly less than 1 percent. The area's black population, however, has declined in both the city and the SMSA. The changes in the percentage of minorities to the total population are minimal, however, and do not indicate the usual central-city pattern. Between 1960 and 1970, the minority percentage for the city declined from 36 to 34 percent, and for the SMSA from 38 to 35 percent. The out-migration is composed mainly of the better educated and more highly skilled members of the black population.

Government is by far the single most important industry in the city. Trade and service follow in that order. Contributing to the economy is Gunter Air Force Base which has a training school and computer center, and although these have not provided direct employment opportunities for Montgomery residents, spending by military personnel has boosted the trade and service sectors.

The Montgomery ES operation provides an interesting contrast to the Duluth operation: Both operate in relatively small cities, both have one local office, and both are at about the same stage of development (neither has installed Job Bank nor undergone the many reorganizations that have occurred in larger cities). Yet Duluth, which has very few minorities, is highly respected by area employers and has cornered 90 percent of the clerical placement market. Duluth employers rate ES a far better screening mechanism than private employment agencies.

The exact opposite is true in Montgomery, not because the Montgomery office does not try as hard as Duluth to place its clientele; the fact is that it tries at least equally as hard. The Montgomery office, however, is dealing primarily with a black clientele who are unacceptable (especially in the clerical area) to many Montgomery employers. The result is that the Montgomery ES is accused by employers of "poor screening"; has lost whatever hold it once had on the clerical market; and new, private agencies have sprung up in the Montgomery area which advertise in large print, "We screen." This illustrates how the effectiveness of a local ES agency is completely dependent on whether it is able to satisfy local customs and the hiring practices of local employers.

Of Montgomery's institutional manpower program, 48 percent is a multi-occupational project, 48 percent in class-size projects, and 3 percent in individual referrals. The "multi" is largely black and disadvantaged.

It is expected that two plants located in northern states will relocate in Montgomery in the near future, offsetting the closing of a Swift and Company food-processing plant last year. The only other growth area is state government.

Rochester, New York

The Rochester SMSA consists of four counties, the most westerly of which might more properly be considered the Buffalo area. The most striking aspect of the Rochester economy is that a few giant companies, the oldest and largest of which is the Kodak Corporation, account for most of the employment in the Rochester area. An employer organization known as the Industrial Management Council (IMC) has created a job market that is relatively closed off from ES and want-ad hiring channels. One of the original intents of this group was to cut down on inter-company pirating of employees and to provide a job-exchange information system for workers who had been laid off. IMC companies hire 90 percent of the Rochester labor force. A subcomponent of this organization is Rochester Jobs Incorporated (RJI) which sponsors NAB-JOBS and CEP.

The largest source of employment in 1970 was in the manufacturing sector of "photographic, optical, and instruments." The three major employers in this area are Kodak, Xerox, and Bausch and Lomb. Kodak alone employs about 13 percent of the work force. Other major areas of employment are trade, service, and government.

Rochester's boom period (which was not associated with aerospace) was between 1960 and 1968. In 1966, IMC listed 10,000 job vacancies. The unemployment rate during the mid-1960s was less than 2 percent. In 1971, job vacancies listed by IMC were down to 809, and the unemployment rate approached 6 percent. Between 1968 and 1970, the rate of unemployment was less than the national average by at least 1 percent. The Rochester SMSA has been classified as a "moderate unemployment area" since July 1970. However, the city has been designated as having "concentrated" underemployment or unemployment since the end of the boom period, February 1968.

During the 1960s, Rochester's minority population increased by 123 percent, the largest increase for any area in the state of New York. Part of this influx was made up of Puerto Ricans who have been migrating to the area since the 1950s, causing a relatively new problem among the disadvantaged--the language barrier to employment.

Another serious employment problem in the Rochester area is the lack of transportation to job sites. Many of Rochester's largest factories are located outside the city boundaries. The city's 34 percent minority population is about equally divided between blacks and Puerto Ricans. The area's MDTA Skills Center is directed mainly toward this population.

Between 1968 and 1969, employment gains were made in trade, service, and government. These sectors are expected to continue to grow. In manufacturing, there were employment losses, partly caused by firms leaving the area. Of the total projected increase in employment to 1975, one-third is expected to come from the durable-goods sector and the remainder from service, trade, and government.

Wilmington, Delaware

The Wilmington SMSA is located in three states, Delaware, New Jersey, and Maryland. New Castle County, Delaware, in which Wilmington is located, contains the vast majority of the state's population and industrial employment. The population of the city declined 16 percent over the last decade. The nonwhite population, however, increased 40 percent, while the white population decreased by 36 percent. The suburban areas, on the other hand, experienced a 44 percent increase in population: The increase for whites was 45 percent; for nonwhites, 32 percent.

Manufacturing, especially chemicals, is the largest source of employment. The dominant firms in the area are DuPont, Hercules, and Atlas, although two auto manufacturing firms, General Motors and Chrysler, are also a major source of employment. All of these plants are unionized, although the DuPont union has been described as a "company union," or little more than an employees' organization. In the nonmanufacturing sector, trade, government, and service are the top three. There is a seasonal drop in employment in the auto industry due to model changeovers. The unemployment rate has been running lower than the national average.

The city of Wilmington has the largest percentage of minorities of any of the cities included in the sample--44.1, or about 31.5 percent above the figure for the total SMSA. Most institutional training is provided by an MDTA Skills Center, although there are also some individual referrals in the area.

No drastic changes are expected in the Wilmington job market, although over the past decade, nonmanufacturing has been gaining relative to manufacturing.

Employment in state and local government has increased at the fastest rate, but contract construction, machinery, and transportation equipment have also made gains. Declines have occurred in textile mill products, leather products, and food and kindred products. More recently, during 1970, the auto industry showed increases, while DuPont decreased its work force through attrition.

Miami, Florida

Manpower planners in Miami are confronted by some very difficult problems. First, the primary industries are retail trade and service, traditionally low-wage industries. Second, employment is highly seasonal, reaching a peak around the Christmas season and a low point during the summer months. Third, the work force is remarkably unstable, periodically swelled by migrants, job jumpers from other states who head south for the winter, retirees with only a marginal attachment to the work force, and Cuban refugees. It is estimated that Cuban refugees account for one-quarter of the area's total unemployment. The presence of these groups in the labor force holds wages down to a generally low level. Finally, employment in manufacturing is remarkably low; what little employment exists in this sector is with small firms.

There are three ES offices in the Miami area: industrial, commercial, and an "Opportunity Center." The last noted is an employability office serving mainly the city's minorities, black and Cuban. An occupational specialist attached to the ES "employer services" unit collects data from both inside and outside the system. Want ads are analyzed monthly, together with applicant counts, Job Bank, and JOLT information, in an attempt to develop an orderly method for defining and identifying demand and surplus occupations for the area. In no other area did ORC see this attempt made by ES field staff.

Miami has recently experienced an economic slowdown. Its growth rate between 1968 and 1969 was 7.5 percent, but for 1970 it was only 2.2 percent. Although its unemployment rate was still below the national average in 1970, it had increased a full 1.4 percent over 1969. Decreases in the rate of growth were mainly in manufacturing and construction. This slowup was due mainly to tight money conditions and not a direct effect of aerospace cutbacks. High growth over the last five years has been in air transportation and the garment industry. The latter is located in the downtown area.

Fresno, California

Fresno is the major city for most of the six counties that are in California's agriculturally rich San Joaquin Valley. Fresno County is number one in the nation in the value of its agricultural output.

The income derived from the agricultural sector has a multiplier effect, both in the manner in which the income is spent and in the way that other industries derive their income. Industries that depend on agriculture are food processors, packers, and wholesale handlers. The new Internal Revenue Service Data Center has modified the employment picture in Fresno, although it has introduced another type of seasonal employment. It is said that when a person obtains a permanent, nonseasonal job in Fresno, he rarely relinquishes it. Unemployment rates remained well above the national average between 1968 and 1970, and the area is classified as an area of "substantial and persistent unemployment."

Most of the area's 35 percent minority population are Mexican-Americans, although a relatively large number of blacks reside in the central city. There are four local ES offices in the Fresno area, including an HRD Center and a Rural Manpower Service Center. Eighty-two percent of the area's institutional training is in class-size projects; 18 percent in individual referrals. Because of Fresno's severely depressed economic conditions and because of the severely disadvantaged minority population, all manpower programs are faced with severe problems.

The outlook for Fresno's unemployed is not bright. A five-year projection indicates an increase in only one occupational area--medical services, particularly LPN. A Bank of America ten-year forecast predicts further changes in agricultural production methods, more diversification, increases in tourist-related industries, and the dislocation of agricultural workers (mainly Mexican-Americans, many with language problems) by automation in harvesting.

Salt Lake City, Utah

The Salt Lake City SMSA consists of Salt Lake County and the southern half of Davis County. The area is located in a valley that is bordered by mountain ranges on four sides. Salt Lake City did not share in the nation's economic boom during the 1960s, and in 1969, when the local economy started to make its move, it became the victim of a national recession.

The largest employment sectors are: trade, government (state and local), services, and manufacturing. The unemployment rate has been running above the national average, although the two were about equal in 1970.

There are two ES offices in Salt Lake City, one a central office and one a temporary and agricultural office. The area's 2.1 percent minority population is made up mainly of Mexican-Americans. Most institutional training is carried out at an MDTA Skills Center, although there are also some individual referrals. The Utah ES was one of the first to experiment with a computerized system for matching applicants with job orders; this remains one of the unique features of the Salt Lake City ES operation.

Growth areas have been in services, government, and trade. Construction, except for a temporary rise recently, has been declining since 1964 when the missile industry started to fold. Although manufacturing is a relatively small source of employment (15 percent), ordnance transportation and electrical machinery have suffered declines that were nationwide. It is predicted that the fastest growth areas will be in services, construction, and trade. Government is expected to slow its growth relative to the private sector.

St. Louis, Missouri

St. Louis is the largest of the SMSAs included in the ORC sample. It encompasses areas in two states and spans the Mississippi River. The unemployment rate for the area climbed to 5.4 percent in 1970, and in July 1971, the St. Louis metropolitan area was classified as an area of "substantial labor surplus."

Although the percentage of minorities in the SMSA is only 16.4 (mostly black), minorities comprise 41.3 percent of the population of the city of St. Louis. The minority unemployment rate is estimated to be 10.4 percent.

Manufacturing is the largest source of employment in the St. Louis area, followed by trade, government, and services. Since 1965, however, manufacturing has declined by more than 2 percent, while trade, government, and services have increased. Manufacturing is diversified, with the largest employers in the automotive, aircraft, and chemical sectors. Recent job losses are due primarily to aerospace cutbacks, but there have also been gradual declines in the manufacture of shoes and apparel and in glass packing (due to automation). Most of the expansion has occurred in retail trade and in services; the former taking place in shopping centers in the outlying areas.

St. Louis has a full array of manpower programs, including CEP, NAB-JOBS, WIN, and Public Service Careers, among others. Most MDTA institutional training is handled through a multi-occupational project conducted in two high schools in downtown St. Louis.

Recently, Model Cities decided to underwrite the development of a Skills Center for St. Louis. The MDTA advisory committee became the Skills Center planning committee. The committee is involved not only in implementing the Skills Center but in every facet of the ongoing MDTA program. The committee includes active participants from unions and employers; the Dean of Continuing Education at Forest Park Community College is its chairman. An employer-sponsored organization, Regional Industrial Development Corporation, is an active participant and has conducted independent labor market research of relevance to planners.

At the time of the ORC visit, ES was centralized in one large downtown building. However, plans for decentralization were under way, and two new offices were planned for late 1971. ES was in the process of installing a cafeteria-style Job Information Service. St. Louis was the only sample city that had an active job-search assistance program in the UI office.

The economic outlook for the St. Louis SMSA is not bright. Loss of jobs is expected to continue in manufacturing, and the unemployment rate is expected to reach more than 7 percent.

Milwaukee, Wisconsin

The Milwaukee SMSA consists of Milwaukee, Ozaukee, Washington, and Waukesha counties. Milwaukee, the central city, has two CEP areas and a Model Cities area. The region has 10 cities with a population of more than 20,000 and 11 cities in the 10,000 to 20,000 range. Manufacturing is the chief source of employment, but growth during the 1960s took place mainly in the trade, services, government, and finance-insurance-real estate groups.

The Milwaukee area has felt the impact of the business recession: cutbacks in space and military spending, declines in residential construction, labor disputes, and rising product inventories. Between 1969 and 1970, employment decreased by 8,100, and the unemployment rate rose to a nine-year high (though still below the national average at 4.2 percent).

Minorities have increased substantially in the SMSA, or more specifically, in the city of Milwaukee. They make up 9.8 percent of Milwaukee County and

14.4 percent of the Milwaukee city population. Most are blacks, although there are also a sizable number of Puerto Ricans.

Most MDTA institutional training is contracted to the vocational schools. The Milwaukee ES has a computerized job-matching system, is an experimental COMO city, and has developed (through Project Vision) one of the most sophisticated systems for identifying demand or skills shortage occupations of any of the areas included in the ORC sample. This system will be described in detail in Chapter Four.

No drastic changes are expected in the Milwaukee job market. Unemployment will continue to be a problem during fiscal years 1970 through 1973. The demand for labor will be weak, and job opportunities for the marginally qualified and disadvantaged will continue to be poor.

Chapter Four

The System

Underlying the development of MDTA institutional training is a series of postulates:

- Training occurs in occupations where there is a demonstrable need or demand for trained workers.
- A body of knowledge necessary for determining these occupations exists.
- This knowledge resides within the ES system.
- It is extensive, accurate, stored, and retrievable, in usable form.
- It is used.

The responsibility for determining which occupations to select for MDTA institutional training rests with ES. Its role as a broker produces a record of job market transactions more centralized than any other. Research staffs are trained to obtain, analyze, and interpret data pertaining to the workings of the labor market. Interviewing staffs are continuously involved in direct exchange with employers and job seekers, privy to the special knowledge that accrues to people in direct, personal, daily contact. It produces a massive quantity of written material emanating from its daily transactions. Thus, ES has the potential for establishing the most concentrated and sophisticated labor market information system available in any given community.

Information gathered from ES agencies, therefore, would provide the main base for fulfilling the objectives of the study as set by DOL. Supplementary information could be obtained by want-ad analyses, employer interviews, and interviews with representatives of other institutions outside the ES system. From the data assembled, the study would have to produce the following:

(1) Of the thousands of occupations in a city, the identification of those in which there are persistent shortages of workers with requisite skills available to employers. Distinctions would have to be made between these and the occupations in demand with little or no skill content or occupations which were active because of labor market factors other than skills shortages.

(2) From those occupations identified as demand or shortage occupations, a further breakdown of those which are suitable for institutional training. This implies not only that national guidelines exist for determining "appropriateness" but also that these are adapted to account for the unique characteristics of local labor markets.

(3) The identification of MDTA offerings for a three-year period in each of the sample areas and analysis of the occupations in which they occurred to determine the appropriateness of training in particular markets. Comparisons would have to be made between occupations selected for training and those not selected to determine whether the most rational choices are being made.

(4) The accumulation of detailed information regarding those occupations defined as having a shortage of skilled workers, but which are not selected for training, in order to identify the principal "inhibitors" of institutional training. Such information would include the size of the occupation, the hiring and employment practices of employers, the degree of union control, the complexity of skills, and the variety of ways that similar skills are used by different employers (among other factors).

(5) The identification of program guidelines, practices, and internal operations that inhibit the development of training programs.

(6) An analysis of the MDTA systems in each of the areas to determine how and to what degree they are providing mechanisms for the participation of employers, unions, educators, and other manpower agencies in the planning of institutional programs.

NATIONAL OFFICE DATA

There were two purposes for surveying data available from the national office: (1) to obtain as much information as possible about each of the sample areas--their economies, labor markets, occupational distribution, lists of shortage occupations (if available), and training programs--so that the research teams could make maximum use of its limited time in the field, and (2) to extract, if possible, a list compiled at the national level of those occupations which are projected as national skills shortages. Throughout the RFP, references are made to the need for comparing local programs to national shortage lists and to national and regional occupational forecasts.

ORC's efforts included visits to offices of the Bureau of Labor Statistics (BLS), United States Training and Employment Service (USTES), the Office of Manpower Management Data Systems (OMMDS), the national Job Bank office, and the U.S. Office of Education (USOE).

Bureau of Labor Statistics

BLS was asked to provide any data that it gathered from the states (or that it had produced) which would provide insight into occupations in the survey areas and would provide overall national skills shortage information. The following information was obtained:

- JOLT Information: JOLT reports for only four cities--Miami, St. Louis, Salt Lake City, and Milwaukee--could be related to specific occupational information available at the state level. The efforts of ORC to use the JOLT material for this project will be described later in this chapter.
- Projections: Occupational projections were available for eight of the 14 states; however, these were of no value to the study because the information was not broken down by SMSA. National projections of growth occupations, contained in BLS's "Occupational Manpower and Training Needs" bulletin, were reviewed but were found to be of little use to local planners. MDTA programs for the total sample, however, were matched against these projections to determine whether MDTA programs in the 14 cities are in "growth" occupations.

United States Training and Employment Service

USTES was asked to provide all labor market information about the survey cities, including labor force size and composition, unemployment rates, major industries, and lists of major employers. It was also asked to provide information about skills shortage occupations in the various localities. One or more editions of AMR were obtained for 10 of the 14 SMSAs. From these, ORC extracted the following:

- Lists of hard-to-fill job orders (30 days or more)
- Other listings or narrative descriptions of occupations that appear active
- Breakdowns of employment by industry
- Lists of major employers in nine of the areas

Employment Service 240

Printouts of orders unfilled for 30 days or more were obtained for a few areas. ESARS was replacing the ES 240 procedure; however, ESARS printouts were not available. ORC was told that they might be available at the local level.

- Vocational Education Projections: Occupational projections for state departments of vocational education were available for Dallas, New Orleans, and Rochester. However, only the Dallas report was available at the national level; the others were obtained in the field.
- Hard-to-Fill Orders: Hard-to-fill orders on state clearance were obtained for 13 of the cities. However, these proved to be of limited value because of the concentration on occupations beyond the scope of MDTA.
- Office of Manpower Management Data Systems: OMMDS provided ORC with raw tapes on enrollee characteristics for all MDTA institutional projects funded in the sample areas in fiscal years 1969 through 1971. A description of this information is made in Chapter Six.

- National Job Bank Office: Of all the tables produced by the Job Bank system, the only one which provides information in enough occupational detail to serve the purposes of this study is the monthly optional report on unfilled job openings. This table lists occupations by six-digit codes and contains information on new openings, placements, and the age of orders. The national Job Bank office was asked to provide copies of these tables for specified months for all cities, but because this is an optional printout, it is not retained in the national office. Subsequently ORC did obtain printouts of this table for seven cities in the field. An analysis of the printouts and their relevance to this study will be presented later in this chapter.
- U.S. Office of Education: USOE supplied ORC with fiscal and other data regarding all MDTA institutional offerings in the survey areas for fiscal years 1969 through 1971.

The two primary goals for reviewing national data were largely unfulfilled. Statistical reviews of employment by industry in the areas and lists of MDTA institutional training programs for the three fiscal years under study were obtained. Instead of skills shortage lists, which was the first goal, the only available lists were of hard-to-fill orders extracted from AMRs. The wide differences between "skills shortages" and "hard-to-fill orders" will be discussed in detail later in this chapter.

The second purpose--to obtain a list of national skills shortages--proved to be as illusory as local shortage lists; they simply do not exist. Having failed to obtain shortage information at the national level, the ORC staff decided that they may have queried the wrong people. Telephone calls were made to the northern

California manpower analyst, the California senior manpower analyst, and the DOL regional office chief of data systems and reports. These knowledgeable people were asked if they were aware of any regular or periodic output intended for the field that compiled or defined national skills shortages, in any form, that was usable for MDTA program planners or evaluators. All asserted that no such information emanated from the national office. Certainly the Occupational Outlook Handbook and the "Occupational and Manpower Training Needs" (OMTN) bulletin provide some information; but as with all national and state forecasts, it is not practicable to local planners. Perhaps this information could be useful; but no one in the field appears to have designed a system or method for incorporating it into MDTA planning.

ORC's review of national projections of growth occupations, contained in BLS's OMTN bulletin revealed the following:

- The top 10 growth occupations (those with a growth rate of 93 percent or more between 1968 and 1980) are outside the scope of MDTA (systems analysts, stewardesses, psychologists, oceanographers, urban planners, etc.).
- Only seven of 30 occupations with a growth rate of 50 percent or more projected between 1968 and 1980 could be considered within the scope of MDTA (library technicians, business machine servicemen, aircraft mechanics, wastewater treatment plant operator, forestry aide, medical occupations, and instrument man). In the 12 sample areas, MDTA is training heavily in medical occupations (growth rate 57.2 percent). There are also a few courses

in instrument man (50.2 percent), business machine serviceman (73.9 percent), and wastewater treatment plant operator (68.9 percent).

- For 11 of the courses or clusters in which training is offered in the 14 sample areas, no national projections are available.
- For those clusters in which MDTA training is heavy in the 14 sample areas, the projected growth rates in percentages are as follows: upholsterer (3.1), machine trades (12.7), automotive (21.6), clerical (31.7), and welding (40.6).
- In those clusters where MDTA training (excluding individual referrals) is light, the projected growth rates in percentages are as follows: draftsmen (48.1), cosmetologist (42.9), building trades (30.6), sales (29.1), executive housekeeper (27.6), vineyard pruner (27.5), printing trades (16.7), and assemblers (8.4).

This review indicates that some MDTA institutional programs do occur in the 14 sample areas in nationally projected growth occupations. However, little MDTA training occurs in those projected occupations which are the most rapidly growing and are within MDTA scope. In fact, these occupations show a tendency to train in those occupations growing only moderately or slowly. Yet, because an occupation is slated for rapid national growth does not mean that it is growing in the individual SMSAs or that the occupations selected for training are growing at a faster or slower rate than occupations not selected. Furthermore, although national projections may indicate occupational areas in which shortages may occur, they do not indicate actual shortages.

One of the objectives of this study was to determine whether workable forecasts of expanding industries and occupations are available to program planners. Although occupational projections are available, they are not of significant value to local program planners.

INSIDE THE EMPLOYMENT SERVICE

ES agencies across the nation are large, complicated and multifaceted entities. When ORC planned its approach to ES, it was recognized that because of ORC's limited stay in a city, the "playing field" would have to be narrowed by attempting to cut through the extraneous and "tap in" quickly to the main sources of relevant data. Assumptions were made, therefore, regarding which segments of these agencies would be responsible for particular activities. Useful information would come from interviewing the "people who know" and from obtaining documents that "told."

Three ES systems were explored:

- The Labor Market Information System--R & S
- The MDTA system
- The Manpower Delivery System

From these vantage points, the ORC teams hoped to be able to determine what was produced or developed within ES that identified persistent skills shortages and how this was done; they also hoped to evaluate and compare these findings with other sources of information. ORC anticipated that ES, more than merely identifying occupations, would have access to that range, depth, and complexity of knowledge about occupations which could be used to determine the suitability of an occupation

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for MDTA institutional training. It was also anticipated that ES would have knowledge of the supply--the target population--as well as a body of experience with MDTA programs from which to draw. Of particular interest would be the opinions and perceptions of ES staff about the relevance of MDTA to employer's needs.

In all, 275 employees of ES agencies were interviewed: 49 were attached to state offices; 42 to district offices; 109 to local offices, two of which were rural Manpower Administration staff and two UI Job Information Service staff; and 75 were assigned to special functions such as WIN, CEP, Job Bank offices, employer services units, and Skills Centers. Functionally, 24 were R & S staff; 31 were MDTA officials, including those who write MT-1s; 28 were local office management staff; 59 were frontline interviewers and supervisors; 19 were SROs and occupational analysts or specialists.

Some were interviewed in groups, some individually. Respondents were invited to express their views freely about any aspect of the program that was not covered in the interview schedule, and assurance was given that their views would be reflected as offered, with a minimum of manipulation and interpretation.

Labor Market Information System--R & S

One assumption made by ORC was that the major, centralized source of information about job markets would be the office and staff of the labor market analyst--the R & S unit (sometimes called "research and analysis") of ES in each state and city. This assumption went beyond expecting aggregate information about the work force representation in industry and the unemployment figures, as regularly required by BLS, or beyond acting as a transmitter of data designed to be part of national studies. Believing it to be the research arm of ES in the state, the teams assumed that the primary function of the labor market analyst would be to act as a "staff service" for local operating staffs (which includes MDTA planners), and as such, would be the repository of relevant information about local labor markets. The reasoning was valid: If it was not considered a staff service, why would it be housed within the agency? And if not R & S, then who? What other activity in the agency would have the focus, the trained personnel, and the facilities necessary to interpret and analyze a complex array of labor market information to determine shortages?

ORC anticipated that either directly or in a consulting capacity, the research staff would be intimately involved in the MDTA planning process. More than that, it was assumed that R & S normally performed functions which would provide insights into skills shortages and their suitability to MDTA in particular communities, such as interpreting and analyzing raw data emanating from Job Bank and ESARS; translating national information, findings, and methodologies, such as the national industrial-occupational matrix, the Occupational Outlook Handbook, and JOLT information into usable data for local planners; and conducting periodic surveys about specific occupations, or providing operating staffs with guidance and methodologies for performing this function. The R & S questionnaire was based on these assumptions. The assumptions soon proved to be naive.

Appropriate R & S staff were interviewed in all 14 areas. In four areas the R & S function was attached to centralized state offices, only two R & S staffs were attached to local offices, and eight were attached to area or district offices.

Early in the interviewing process, it was discovered that R & S was almost totally detached from the entire MDTA process. Apparently in the early days of MDTA, labor market analysts were required to "sign off" all MDTA programs. As MDTA shifted toward training the disadvantaged and away from "filling shortages," R & S was relieved of even that limited participation. Neither federal nor state guidelines require or assign any part of the process for identifying or justifying MDTA programs to R & S units.

Despite the "official" noninvolvement of R & S in the planning process, ORC expected that requests for help in conducting surveys and arriving at decisions would be generated by field staffs as they faced complex and unfamiliar tasks. Thus, the question was asked of R & S respondents, "Are you asked to perform special surveys for MDTA?" Only four cities indicated that any such requests were ever made. Of the four, city A responded by putting together statistics from applicant files, closed-order files, unfilled orders, and data obtained from the Occupational Outlook Handbook. It made no recommendations. City B responded by conducting a survey which resulted in a funded program.

The experience of city C is worth describing because it is unique. The task of arriving at occupational supply and demand information and making recommendations for training has been assigned to a staff member attached to the ES unit. Her title is "occupation specialist." Because she became known throughout the city as the only source of occupational information in ES, all requests for assistance came to her rather than to R & S. The requests also came from outside the normal ES and included CEP, WIN, MDTA, and schools. Everyone wanted guidelines, assistance, and information on "demand" occupations. One such request came from the director of occupational education at a local community college. In his efforts to determine which occupational offerings to develop at the college and relate them to the local labor market, he needed information; he "needed to know." The occupation specialist did not believe she had the necessary expertise or training to devise methodologies or provide staff to respond to his needs. Together, they requested help from both the local and state R & S offices. Here in the words of the director is a description of the conversation that ensued:

> After repeated requests, they sent a state research representative to meet with us. We [asked], "Can you help us? Can you give us what we need?"
>
> They said, "No, we can't do it."
>
> We said, "Then we'll do it. Give us the names of employers so we can do it."
>
> They refused, saying "No, it's our job; it's our function."

However, the state R & S did advise them about a method for conducting a survey of health occupational needs, which was completed as a joint effort.

City D represents the only relationship of R & S to MDTA planners that could be regarded as a staff service. Because of reorganization, the R & S labor market analyst interviewed had only recently acquired city D in his jurisdiction. However, the material prepared by that unit to assist MDTA planners had been made available to the survey city before the official shift. Some of the material was developed as a result of field requests, but mostly, it was offered because R & S perceived the need.

A labor market bulletin was issued to the field describing 13 occupations that might be considered for MDTA training. The descriptions were detailed, extensive, and relevant. All available data were combined, including size, forecasts of expansion, turnover and attrition information, details on specialization in various industries, employer hiring practices, impediments, the relationship of training to the job, different situations in different localities, the best hiring opportunities after training, and a myriad of other details. The material offered program planners much more than a mere definition of "skills shortage." The documents ended with an MDTA recommendation.

The significant aspect of these documents is that they were readable, usable, and comprehensive. In other words, all the work of combining and interpreting data sources was done at R & S so that the field got the entire results--not merely bits of raw, uninterpreted information. Also, another issuance from the R & S unit listed 48 other occupations with less extensive information, but giving the critical "make" or "break" factors. The type of information offered in the description of the 13 occupations was valuable to MDTA planners in ways that transcend the selection of occupations for training. The nature of the information was such that in the trainee selection process, potential trainees could be given a far more detailed view of what to expect; conceivably, curriculum design would better reflect the actual port of entry, and job developers would have a much better idea of how and where to develop jobs for graduates. This was the only example ORC encountered where data produced by an R & S system were synthesized into usable information for MDTA planners. (Sample copies of these bulletins appear in parts I and II of the Appendix.)

It is interesting that there were only four requests from the field for help from R & S staffs. To ORC, this is strong evidence that operational staffs do not consider R & S a staff service designed to assist them and have no expectations that R & S is available or equipped to serve their needs.

An attempt was made to determine which of the normal functions of R & S, not specifically directed toward MDTA planning, produced the kind of specificity and occupational focus that would be usable and helpful.

Four area MDTA planners had access to either state or regional occupational guides produced by state R & S offices. Five had access to area skill surveys conducted by R & S, which often provide considerable specific local information, such as an industrial-occupational matrix, current and projected sizes of all major occupations, job levels, and minimum educational levels required. Four had access to reports prepared by state R & S offices for vocational education in accordance with Section 123 of the Vocational Education Amendments for 1968, providing figures on current and projected sizes of occupations. Of the four, three had figures for the specific survey area. Six areas received no usable occupational forecasts for local labor markets, though state projections were available in some areas.

R & S responses to questions relating to the analysis of Job Bank and ESARS printouts indicated that this is not a function of R & S. ORC researchers assumed that these costly, computerized systems which recorded and summarized all job order activities, as well as applicant services in a local office, were analyzed regularly and interpreted for whatever insights they might offer about local labor markets as well as for evaluation purposes. In practice, it proved impossible to determine whose function it was. It seems improbable that this flow of paper is simply filed, but no evidence to the contrary could be uncovered.

Hard-to-Fill Order Lists

The hard-to-fill order lists of occupations appear in AMRs and are prepared by R & S staffs. Generally they are based on orders that have remained unfilled for 30 days or more, though this is not rigidly adhered to. This list, often referred to as a "demand list," must be distinguished from demand lists put together by local offices each week for purposes of counterscreening and recruitment of applicants from UI lines or other sources. Before Job Bank, the preparation of local office demand lists was a regular procedure. Since the advent of Job Bank and cafeteria-style service, however, most local offices have discontinued the practice. Only four of the 14 cities surveyed still prepare demand lists, although lists of "training needs" are often included in local office "plans of service."

Of the 14 cities, 11 publish AMRs quarterly or semiannually; one publishes an annual review and two provide no published information. All available copies of AMRs were collected for fiscal years 1969 through 1971. Hard-to-fill order lists are the only compilations of occupations produced by the ES system that bear any relationship, however remote, to lists of "shortage occupations." These lists had to be regarded as baseline documents for this study; methods used to compile them became of paramount importance. Local office staff, as well as R & S staff, were questioned about their particular inputs, to identify established systems that would facilitate the evaluation of the degree to which orders unfilled for more than 30 days could be equated with "skills shortages," and whether the field contributed to these determinations.

In a study of this sort, few unequivocal statements can be made. However, it can be stated unequivocally that "hard-to-fill" lists do not constitute anything resembling lists of "skills shortages." There is no uniform system for selecting occupations which appear on the lists. The processes vary in each city, and the products--the lists themselves--vary so much in content that no attempt will be made to make a systematic analysis of them. Instead, a few of the variations encountered are summarized below:

The List

- The list is a complete printout of all unfilled orders for 30 days or more. No reasons are given for the orders being unfilled. No judgments are exercised.
- The list excludes low-skill occupations. Coded reasons are given for orders being unfilled. The codes are provided by R & S.
- The list is very short, obviously excluding low-skill, high-skill, and commission-type sales jobs. More exact explanations are offered for the reasons that orders are unfilled, obviously reflecting local office input.
- The list is a summary of narrative statements regarding certain occupational areas; only a few unfilled orders for specific occupations are identified.
- There are two lists: one, unfilled orders; the other, hard-to-fill orders.
- Lists quantify the number of orders but offer no reasons that they are unfilled.

The Process

- A Job Bank and ESARS printout is sent directly to R & S whose staff exercise personal judgment in selecting occupations.

- Local offices ask various interviewers to suggest hard-to-fill orders by making comparisons of job openings with applicant files. Local offices decide what is to be printed in the AMR.
- An elaborately designed system is used for choosing occupations, involving selection of only those occupations with a certain number of unfilled openings over a designated time period. The Occupational Outlook Handbook is used to make a prognosis of long-term occupational growth.
- Lists include occupations known to be in short supply but not reflected in ES transactions.
- Lists include only ES transactions but warn that occupations not normally listed with the ES are excluded.

Ambiguities

- The reasons offered are too ambiguous to determine whether there are skills shortages. "Lack of qualified applicants" does not necessarily mean that "skill" is the quality lacking. It could easily relate to nonperformance factors. "Lack of qualified applicants with transportation" provides little insight into whether there is a skills shortage or a transportation problem.
- In all but one city, lists are not quantified, and occupations with only one unfilled order have the same weight as occupations with 10 or more unfilled openings.
- AMRs are published either quarterly or semiannually. Yet hard-to-fill order lists usually reflect data for the preceding month. Six-month AMR lists are of little use in determining the persistence of skills shortages, if indeed, they represent skills shortages at all.

- With few exceptions, the lists represent only ES transactions. The degree to which an ES staff tends to regard its activities as the whole labor market, thus developing what might be called "tunnel vision," will be discussed later. Most AMRs alert the reader that there are many occupations whose job transactions are not reflected in ES records.

The lists are unreliable for any purpose. For one city, "keypunch operator" was listed as a hard-to-fill job. However, an interview with the placement supervisor revealed that there were many highly experienced, skilled operators in the active file. When asked why "keypunch operator" was listed as hard to fill, the supervisor said that a fairly new employee had been given the responsibility for assembling the list, had been impressed by 10 openings, and had not checked the applicant file. The openings were poor, low-pay jobs.

In another city, Job Bank summaries were checked by ORC staff against the AMR list for the corresponding period. The Job Bank provided the following information:

Unfilled Openings[1]	No.	Unfilled Openings[2]	No.
Clothing salesman	5	Waitress	1
Heavy truck driver	3	Cook	1
Lineman	15	Presser	1

In still another city, the AMR explained that hard-to-fill lists are based on transactions for the previous month. A total of 36 occupations, ranging in skill from nurse to service station attendant, were listed in the AMR. Included also were two commission-type sales jobs, telephone solicitors, live-in maid and porter. The Job Bank printout for the designated month listed no opendings unfilled for 30 days or more, and its list of unfilled openings (for less than 30 days) was completely different from the list contained in the AMR:

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[1] These occupations do not appear on the hard-to-fill list.
[2] These occupations appear on the hard-to-fill list.

Unfilled Openings on AMR List	No.	Unfilled Openings (Job Bank) Not on AMR List	No.
Guard	2	Shirt presser	4
Porter	1	Cook	4
Maid (live-in)	2	Billing clerk	1
		Cashier	1

It is possible, or course, that ES possesses a body of empirical knowledge about the quality of jobs and applicants, not reflected in transactions, which affects these judgments. Many ES interviewers intuitively feel that the published lists are of less value than their own judgments and knowledge. Admittedly, numbers alone are meaningless. However, neither quantity nor skill content of occupations appear to have consistently influenced decisions as to which occupations are placed on hard-to-fill order lists.

Faced with such ambiguity and variability, ORC evaluators made the only decision possible: It was decided that all occupations which appear on hard-to-fill order lists would be used exactly as they were published as indicators of "demand," with skill level and the reasons offered in AMRs for the jobs which remained unfilled being ignored. Hopefully, indicators from other sources would serve to better refine or reduce the universe.

In summary, examination of AMR lists and jobs listed as hard to fill in the inventory of job openings indicates that jobs listed with ES which remain unfilled for an extended length of time during a period of relatively high unemployment reflect one or more of the following:

- The need for unusual combinations of skills and experience for specific jobs which are unique. These are usually high on the skills scale and are beyond the range of MDTA.
- The jobs are unskilled, poorly paid, have poor working conditions, involve transportation problems, are of low status, or have such an array of nonperformance requirements as to make them untenable or undesirable to most job seekers.
- Openings are in large occupations, such as clerical, in which the turnover or normal attrition rate creates a relatively large and steady flow of job openings.
- Finally, there is the possibility that some local offices are inefficient or ineffective and have poor administrative follow-up and slow verification. Since office competency is not the subject of this study, there is no evidence of any kind to support or deny this conjecture.

Table 4-1 treats a single month printout for seven cities, for which Job Bank summaries are available, as if they were one city. All unfilled occupations appear for 30 to 60 days, with four or more openings displayed in the "number of openings" column. Five groups of occupations dominate: (1) commission-type sales, (2) high-skill professional, (3) clerical, (4) sewing machine operator,

TABLE 4-1

Unfilled Job Openings: 30 to 60 Days
(One month)[a]

DOT	Occupation	Number of Cities[b]	Number of Openings
014.281	Marine draftsman	1	12
005.281	Civil draftsman	1	5
091.228	High school teacher	1	18
092.228	Elementary teacher	1	13
152.028	Music teacher	1	4
079.378	LPN/RN	1	29
195.108	Caseworker	1	14
189.168	Manager (trainee)	1	4
201.368	Secretary	4	34
202.388	Stenographer	2	35
207.388	Clerk-typist	3	37
240.268	Claims examiner	1	4
211.368	Cashier	1	4
213.582	Keypunch operator	1	9
223.387	Shipping & receiving/stock	1	9
293.358	Solicitor	1	15
263.258	Sales, orthopedic shoes	1	6
289.358	House-to-house sales	4	56
250.258	Insurance sales	4	40
250.358	Real estate sales	1	7
299.889	Sample distributor	1	10
313.381	Cook	1	4
314.381	Cook (short order)	1	4
311.878	Busboy, waiter	4	25
318.887	Kitchen helper	1	4
306.878	Maid (domestic)	2	18
377.868	Guard/watchman	4	79
421.887	Farmhand	1	4
407.181	Landscape gardener	1	6
525.887	Animal eviscerator	1	15

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[a] Data collected by Olympus Research Corporation from Job Bank printout.
[b] Taken from seven selected cities of the 14-city survey.

TABLE 4-1 (cont.)

DOT	Occupations	Number of Cities[b]	Number of Openings
559.782	Chemical operator	1	20
600.280	Machinist	1	4
620.221	Auto mechanic	4	29
710.884	Instruments assembler	1	26
732	Metal furniture assembler	1	16
780.334	Upholsterer	1	5
788.787	Sewing machine operator	4	63
801.781	Structural steel worker	1	10
824	Electrician	1	20
840.781	Painter	1	5
800.381	Carpenter (construction)	1	6

(5) low-paying, low-skill jobs such as guards, maids, and kitchen helpers. Orders for auto mechanics and assemblers are also significant. There is no way of knowing whether this kind of analysis, performed monthly, would help identify demand occupations. One thing is certain, however: AMR listings, the only product of the labor market information system, are of questionable value in identifying demand occupations and merely reflect a shortage of people willing and/or able to take those jobs.

Manpower Language

One of the most difficult problems encountered in performing this study resulted from the ambiguity of terminology commonly used in the manpower field. "Shortage" occupation, for example, is used interchangeably with "demand," or "unfilled job order"; and local office "demand lists" have little relationship to "demand" occupations. In answer to the question, "What does the term 'skill shortage' mean to you?" R & S staff answered as follows:

- Lack of qualified applicants (six respondents)
- Lack of "skilled" or "trained" applicants (three respondents)
- Lack of applicants willing to accept job (two respondents)
- Order unfilled 30 days or more (one respondent)
- Demand exceeds supply (two respondents)
- Impossible situation (one respondent)
- Not a meaningful term (one respondent)
- No response (two respondents)

Most responses indicate that labor markets are perceived in ES terms only--applicants against orders--as if no market exists outside the ES "tunnel." In response to the question, "What is the official ES definition of skills shortage occupations?" ten respondents stated that there is no official definition; the remaining four responded as follows:

- Unmet manpower needs
- Combination of number of unfilled openings and persistence; shortages shift with changing labor markets
- Twenty or more openings, at least 30 percent of which are open 30 or more days in at least two of the last four quarters
- Occupations where substantial and continuous demand exceeds supply of fully qualified workers.

The last answer was given by the same respondent who felt that the term lacked meaning.

Respondents in all 14 areas said that there is no official ES definition of high-turnover occupations. A few elaborated on their answers by stating that there is no distinction made between high-turnover jobs, hard-to-fill orders, or shortage occupations.

Generally speaking, a rather simplistic view of shortage and surplus occupations dominates the field: By adding the demand factors (unfilled orders) in one column to the supply factors (applicants) in another column and then subtracting the smaller figure from the larger, we arrive at a difference which constitutes "shortage" or "surplus." Though some efforts are made to identify the reasons for shortage (i.e., a shortage of skills as against a shortage of workers for other reasons) those efforts are haphazard, inconsistent, and unscientific. There is no universally accepted tool or methodology for distinguising between occupations in demand (because of shortages of workers with the requisite skills) from those in demand (because of high turnover and other factors).

Perceptions Regarding Labor Market Data and MDTA

A series of questions was asked of R & S personnel to determine whether they knew if labor market data generated by R & S operations are used by MDTA planners. Respondents in all but one area said that they did not know. A few added that reports are probably used as "background verbiage," and that the "shortage lists" are probably utilized. Two stated that occupational information is not available from the reports.

In response to the questions, "Is currently available labor market information valuable for MDTA planners? For local office staff? For the job seeker?" the responses were as follows:

- For MDTA Planners: Two respondents answered "Yes," provided that additional interpretations and local considerations are added. Three responded with an unequivocal "Yes," offering a variety of uses such as "industry earnings, growth, and decline"; "gives assessment of potential for placing graduates"; "check of applicants against orders." One respondent stated that it was of no value because planners needed occupational identification.
- For Local Office Staffs: Four respondents stated "No" unequivocally. One city gave an equivocal "Yes," adding that local offices needed to learn how to use it and apply it to their own situation. Two different respondents in one city gave opposite answers--one "Yes," one "No."
- For Public Use: Only one office believed R & S data to be useful to the public in its present form.

A further indication of how R & S personnel view the users of their data was in response to an open-ended question, "For whom do you provide labor market information?" Only one respondent mentioned manpower program planners.

An open-ended question was asked of writers of MT-1s in all 14 cities about potential sources for the identification of training occupations. Three mentioned R & S reports. When asked about methods used to justify training programs, seven mentioned R & S material. R & S data are used as background information by the MT-1s rather than as a means of identifying training occupations.

Local office managers and other staff members were asked whether they found available labor market information of value in determining training needs, placements, and counseling or for public dissemination. The opinions expressed were overwhelmingly negative. Comments included: "Good information but not in usable form"; "Helpful--but not as comprehensive as we would like it to be"; "What they have is not programmed for our use."

Contrary to the original assumption of the study, R & S operations of ES are not presently geared to providing staff services to MDTA planners. R & S and publications are not designed for the use of planners; they may have value for other purposes, but they are not widely used.

Let us turn our attention to the responses to the questions: What about the relevant labor market information that is available? Is it used by program planners?

At least 35 people were interviewed in the 14 areas who were directly involved in the MDTA process. Sixteen of these people wrote more than 150 MT-1s. When asked to describe the various methods and source material used for identifying and justifying programs, some 13 different information sources were volunteered. *Not a single respondent* made reference to the following R & S or national publications, most of which were available and could have some value in selecting suitable MDTA occupations: occupational guides, *Occupational Outlook Handbook*, area skill surveys, surveys for vocational education, JOLT, and bulletin 1701--"Occupational Manpower and Training Needs." Even in the four states where R & S has some occupational focus, e.g., participation in the occupational guide program, no linkages existed between R & S and MDTA planners.

A rather startling example of this occurred during a discussion between ORC researchers and an entire MDTA unit, including the person responsible for writing MT-1s: An ORC team member had obtained samples of occupational guides from the Apprenticeship Information Center and other local occupational information assembled by the Job Search Service in the UI office, such as a book of job summaries and weekly information bulletins. Members of the MDTA unit were asked if they use the guides, or any of the other material, as sources for occupational information not only for selecting occupations but also for providing potential trainees with detailed and accurate information about the occupation or as an aid in devising a placement focus. No one in the unit was aware of the availability or value of this material. When the guides were produced, some of the staff recalled "seeing them in the supply room stored on the upper shelf."

One of the objectives set by DOL for this study is an answer to the questions, "Have workable forecasts of expanding industries and occupations been available to institutional manpower training program planners? What are the sources of these and how were they used?"

It is now possible to make a definitive response to that inquiry. National forecasts of occupational expansion are either unavailable, unusable, or unknown to local planners. No shortage occupations are identified at the national level. State occupational forecasts are of little value to local program planners. Nine areas have access to occupational forecasts. However, there is no evidence that these forecasts are used in the identification of training occupations. There is evidence that one R & S office uses all available material, including forecasts, to make recommendations to MDTA program planners about selected occupations.

Labor Market Information System--The Unusual

ORC encountered some uncommon and atypical efforts to create or refine approaches to the collection and organization of labor market information relevant to the purposes of this study. The following brief descriptions of these efforts are offered as having possibilities for replication elsewhere.

Miami, Florida

In Miami an interviewer, attached to the ES "employer services" unit, has the responsibility for determining surplus and shortage occupations for the city as well as assembling whatever occupational information there is. She has been given no training and has had no previous exposure to research methods or techniques used by labor market analysts. Yet she has become the central repository of all occupational information in the city. Wherever ORC researchers went for information, both inside and outside ES, they were invariably referred to her. On her own, hit or miss, and with no direction from any source except what she herself could promote, she has experimented with the development of an orderly method for arriving at supply and demand information. This involves the tabulation of canceled job orders, unfilled jobs over 30 days, physical counts of applicants on file in every occupation every two months, and monthly surveys of want ads and JOLT information. She has devised a method for weighting these data and coding her findings with regard to the surplus or shortage level of each occupation. The result is a massive and impressive data bank of occupational information. However, she feels that the results are inadequate and indecisive. When she was asked what she would like this study to say, she replied with a written document which is worth repeating in full:

> As an occupational information specialist, I would like at least one part of your report to examine the poor data available for planning, counseling, and recruiting purposes. Much of the information available within ES is not related to identifying occupational labor demands or just plain information on what the occupation pays, or skills required by local employers, etc. One basic problem to me is that there is really little information that explains what constitutes an occupational demand [labor shortage], how to measure it or identify it. What little information is developed is often inaccurate because of the poorly trained staff involved in this type of work, or because of the mere lack of staff to adequately complete such a task. We don't even know how many people are actually employed locally in any given occupation. This simple fact is especially important in determining the significance of the occupation as well as a starting point to evaluate the labor supply for identifying the need for more people. To summarize: (1) The information available is often the wrong kind and often not valid. (2) The planners, recruiters, etc., do not have enough data available to properly carry out their functions. Under these circumstances, I see no way that ES can ever be able to truly align MDTA type programs with the community labor needs.[3]

Interestingly enough, through her efforts, Miami is the only city in the survey that provides operating staff with a booklet compiling information on 450 occupations in the county. In charted form, the booklet includes briefed or coded information about the following items for each occupation: hours, demand level, entry level, minimum age, experienced salary range, entry salary range, educational and licensing requirements, job disadvantages, job advantages, special skills and knowledge, physical requirements, job duration, occupational title, and code.

It is also interesting that through her efforts, or with her assistance, more written surveys conducted with employers for a wide variety of occupations were obtained by ORC than in any other city.

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[3] This letter is reproduced in its entirety because of its graphic message.

Unfortunately, this is indicative of the heroic efforts of a single person, despite the system. It cannot be regarded as information produced by the design and intent of the labor market information system.

Milwaukee, Wisconsin

In 1970, this city completed a study funded by DOL to examine five alternative methods for forecasting labor supply and demand to "provide a labor market information system that could effectively aid state and local education officials in the programming of curriculum to meet the labor force needs of area employers."[4] The study also explored the costs involved in each of the five methods and the staff skill that would be required. The five methods examined were: (1) the experimental employers' needs survey (a variant of the area skill survey technique), (2) the leading indicators experiment approach, (3) the unfilled openings (Occupational Outlook Handbook) approach, (4) the industry expert approach, and (5) the BLS occupation by industry matrix technique (method A).

Since the study was done for DOL, it would be redundant for ORC to describe the findings, except to express gratitude for the insights the study provides. However, because the report exhibited an extremely high level of sophistication and competency, ORC was particularly interested in determining whether the report findings and the methods explored significantly altered the ability of the information system to assist MDTA planners.

During the past year, Milwaukee has reorganized its delivery system into the COMO concept, Job Bank has been inaugurated, and ESOP (the computerized matching system has been introduced. The shifts in staffing, focus, and areas of responsibility made it difficult to track down relevant information. However, it appears that the staff which had participated in the DOL study are using knowledge gained from the study to assist MDTA planners, when they are requested to do so. However, requests are made for only about 50 percent of the projects, and then only to determine projections for already suggested projects. The methods are not incorporated into the planning stages of MDTA. Except to the degree that such methods are used to select demand occupations for publication in the AMRs, they are not used to identify area demand occupations from which projects might then be selected.

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[4] Wisconsin State Employment Service, Project Vision, June 1970.

Fresno, California

The R & S unit responsible for producing a synthesis of occupational information, which ORC considers the most useful for MDTA program planners, warrants some description because of its uncommon focus on detail and the nature of the services it performs for operating staff. This unit is also significant because the mechanism it has created and installed in 30 local offices (including UI offices) is an attempt to capture, systematize, store, and retrieve all occupational information that passes through ES operations--information which is usually stored only in interviewers' heads. The mechanism is called the "occupational data bank." Fresno is not one of the 30 offices within the jurisdiction of this particular R & S unit that has a data bank because, at the time the banks were installed, Fresno was outside the realm of jurisdiction. However, because of its occupational focus, the unit has produced information from which Fresno has benefited.

The occupational data bank is not a computerized operation. It is maintained by local staff with the assistance and guidance of R & S field staff. The primary purpose of the data bank is to provide both local office staff and job seekers with helpful information. Although selecting occupations for MDTA is not its prime focus, it is in effect a central repository of detailed information about specific occupations which could be (and is) of inestimable value to MDTA planners.

A detailed description of the data bank appears in the Appendix. Briefly, the data bank consists of closed job orders; employer contact records; labor market conditions for various sectors of an occupation; union referral information; cross references to the employer directory; relevant profiles or occupational briefs; references to "Job Finders" or other published materials available; MDTA training statements; information on local training, including whether it meets licensing or employer requirements; and licensing information--all on 5- by 8-inch cards arranged by specific occupation. It is also color-coded to provide job search information for special applicant groups (handicapped, veterans, the monolingual or bilingual, women factory workers, olders workers, etc.), and is constantly kept up to date. The unit has just completed an experimental depth survey for "household appliance repair." From these data, the following will be prepared for the field: summary cards for the data bank in the 30 offices, occupational guides, "Job Finders," a directory of employers who hire people in these occupations (for the data bank), an MDTA statement, and forecast information.

It is not within the scope of this report to evaluate R & S operations. The above description, however, indicates that if R & S is considered a staff service, it can provide invaluable assistance to MDTA planners. The wide differences among the R & S operations throughout the country are apparent when the following questions as a simple criterion are applied: Is R & S designed, funded, and mandated to provide information and assistance to the operating staff of its own agency, and does it function as part of the agency, contributing its own particular competency to the goals and programs of the agency? Or is it, instead, a field office of BLS, assemblying local data for incorporation into national aggregates? The evidence seems to indicate that the latter is more often true. Yet the R & S unit described in this chapter is a model of the former.

Labor Market Information--ES Transactions

The degree to which ES transactions determine which occupations are considered in short supply has already been indicated by the description of the lists appearing in the *AMRs*. Further evidence of MDTA reliance on ES transactions for indications of training needs is that in 12 of the survey cities, writers of MT-1s listed data from ES transactions as a major factor influencing their decisions. For that reason, ORC conducted an analysis of ES transactions to see if it were possible to determine to what degree they provide insights into the wider job market.

Most local office transactions, including job opening activities, are compiled in the ESARS and Job Bank computerized systems. ORC's approach to the source material was based on simple assumptions that the installation of the systems include a methodology for analyzing and interpreting the information so that it is useful to national, state, and local operators, and staff is assigned and trained for this purpose. ORC, therefore, set out to obtain the findings of such analyses for possible use in this study. Inquiries were made at the national, state, and local levels. Again, it appeared that the assumptions were wrong. ORC was unable to unearth any evidence that a methodology had been created for interpreting computerized information or that staff had been assigned to this task. For that reason, ORC attempted its own analysis.

A careful examination of ESARS tables indicated that ESARS information would not be of value to this study. Because of the need for as much occupational refinement as possible, ORC chose to analyze an optional monthly Job Bank printout titled "Report on Unfilled Job Openings." This printout lists occupations by six-digit DOT codes and includes new openings, placements, and unfilled orders for 30 or more days. Of the 14 survey cities, 11 were under the Job Bank system at the time of the study. Only seven of these had opted for that particular table. An attempt was made to obtain copies for two months, April and October 1970 or 1971. Because offices came into the system at various points in time, it was not always possible to obtain those particular months; in such cases, the most recent printouts were requested. An attempt was also made to relate these tables to the months immediately preceding the publication of the AMR to compare the source material with occupations included in AMR hard-to-fill order lists. Because of different AMR publication dates, however, this was possible for only two cities.

Michael Piore, one of the developers of the concept of secondary and primary labor markets, when asked to define "secondary labor markets," replied that they could be defined as "jobs that are listed" with ES. This may or may not be true in a tight labor market; ORC's analysis of Job Bank activities during the past year supports the Piore theory. With few exceptions, most job openings and placements are in a small number of high-turnover, unskilled, or semiskilled occupations. The exceptions are in cities where unions are very weak since a much higher number of job transactions takes place in construction occupations.

Several problems were encountered in working with the unfilled job openings printouts, including the following:

(1) Occupations were identified by six-digit DOT codes only, not by title. Most six-digit codes encompass more than one title. In such cases the title most frequently encountered or most widely representative of that code was selected.

(2) Three of the seven cities included day work and casual labor transactions in their printout, while four did not. The presence of these transactions distorts the comparative data. However, since the usual casual labor men's code--material handler--also includes regular jobs, the temporary jobs were included.

(3) Occasionally, the data in the printouts were obviously confusing or incorrect and required further clarification from that particular city. Some outstanding examples encountered were:

  (a) The 1,004 jobs for sewage plant operators recorded in October turned out to be 1,004 summer jobs (which had been reported late) listed under the "sewage plant operator" code.

(b) There were 394 new openings listed under the "porter" code. It was discovered that this city used the porter code for casual labor, but the same code was also used for regular porter jobs.

(c) One city listed many openings in codes that were not in DOT. On inquiry, ORC was told that the local office uses these codes for their summer jobs and their special programs, such as NAB-JOBS.

(d) There were 610 openings for sheet metal workers listed in a highly unionized city. On checking, it was found that there were actually 14 openings; the figure in the printout was simply an error.

(e) There were 794 new openings listed for actors, of which 793 were canceled. A movie company had placed the order which was canceled by ES when it was discovered that the "actors" were required to pay the company to be in the picture.

Wherever possible, these questionable figures were removed from the totals.

Methodology

The numerical concentration of job transactions is shown in Table 4-2. A one-month printout was used for each of the seven cities. Two columns were selected for analysis: "new openings" (received during that month) by DOT code and "filled openings" (placements made that month) by DOT code. "New openings" and "filled openings" were each ranked by occupation, in descending order, according to the

TABLE 4-2

Occupational Concentration of Job Transactions
(By city)[a]

City	Concentration[b]	Openings: No. of Openings	Openings: % of Total Openings	Openings: No. of Occupations	Placements: No. of Placements	Placements: % of Total Placements	Placements: No. of Occupations
A	TOTAL	7,887	100.0%	639	2,832	100.0%	395
	75% universe	5,615	71.2	89	1,888	67.0	67
	Remainder	2,272	28.8	550	944	33.0	228
	Most frequent	2,513	31.9	14	1,020	36.0	17
B	TOTAL	1,254	100.0	193	833	100.0	139
	75% universe	937	74.7	13	666	75.4	15
	Remainder	317	25.3	180	167	24.6	124
	Most frequent	584	46.6	3	484	54.8	2
C	TOTAL	4,547	100.0	441	1,570	100.0	221
	75% universe	1,965	43.2	15	1,214	77.3	39
	Remainder	1,082	56.8	426	356	22.7	182
	Most frequent	1,204	26.5	7	544	34.6	4
D	TOTAL	960	100.0	231	340	100.0	81
	75% universe	707	73.6	61	253	72.3	13
	Remainder	253	26.4	170	97	27.7	68
	Most frequent	436	45.4	16	194	55.4	3
E	TOTAL	2,059	100.0	358	612	100.0	132
	75% universe	1,535	74.6	75	468	76.5	31
	Remainder	524	25.4	283	144	23.5	101
	Most frequent	809	52.7	14	158	25.8	2

TABLE 4-2 (cont.)

City/Concentration[b]		Openings			Placements		
		No. of Openings	% of Total Openings	No. of Occupations	No. of Placements	% of Total Placements	No. of Occupations
F	TOTAL	1,100	100.0	285	360	100.0	147
	75 % universe	788	71.6	74	199	55.3	29
	Remainder	312	28.4	211	161	44.7	118
	Most frequent	315	28.6	11	104	28.9	10
G	TOTAL	686	100.0	171	248	100.0	98
	75% universe	512	74.6	55	136	54.8	13
	Remainder	174	25.4	116	112	45.2	85
	Most frequent	281	41.0%	14	107	43.1%	7

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[a] Data collected by Olympus Research Corporation.

[b] The term "75% universe" is derived by ordering job transactions (openings and placements) for each occupation, with the most frequently encountered occupations ordered first. Those occupations which account for as near to 75% of the total transactions (considering only the occupations in which there are four or more transactions) comprise the "75% universe."

"Remainder" signifies all transactions not included in the 75% universe.

"Most frequent" shows the job transactions attributed to the set of occupations most frequently encountered. The list of these occupations is given in Table 4-3.

number of transactions for that month. From this list, occupations were selected downward until they accounted for, as nearly as possible, 75 percent of all transactions. In arriving at this "75 percent universe," ORC used no occupations with less than four transactions. Table 4-3 lists the occupations (by name) in which ES transactions were most frequent.

The data were further analyzed and summarized by skill-level code for each of the seven cities, with an overview. The methodology and tables appear in the Appendix.

Though there is considerable variance from city to city, Table 4-2 clearly establishes that the concentration of ES activity is in a small number of generally low-skill, high-turnover occupations.

An important observation emerged from the Job Bank analysis:

- There is a widespread assumption that local office staffs absorb (as if by a process of osmosis) a large body of information about occupations in local markets because they receive job orders from employers, interview applicants, and visit employers occasionally. It is assumed that this exposure provides local office staff with adequate information to determine occupations in short supply and their appropriateness for institutional or other training programs.

For this assumption to be correct, certain conditions would have to prevail:

- The number of transactions in a single occupation would have to be extensive and frequent enough to provide a full picture of all the variables and complexities.

TABLE 4-3

Distribution of Most Frequent Job Transactions (By occupation)[a]

City	Occupations of Most Frequent Openings	Occupations of Most Frequent Placements
A	31.9% of TOTAL openings in: Busboy/waiter, porter, light truck driver, kitchen helper, clerk-typist, secretary, auto service station attendant, warehouseman, cook, maid, arc welder, awning hanger, telephone solicitor	36.0% of TOTAL placements in: Porter, busboy/waiter, light truck driver, kitchen helper, maid, warehouseman, service station attendant, cook, nurse's aide/orderly, clerk-typist, materials handler, electronic assembler, LPN/dental ass'ts, machine presser, hand packager, clerk (general), grounds keeper
B	46.6% of TOTAL openings in: Porter/casual laborer, phone book deliveryman, domestic worker	54.8% of TOTAL placements in: Porter/casual laborer, phone book deliveryman
C	26.5% of TOTAL openings in: Domestic day worker, materials handler, maid, porter, yardman, busboy/waiter, maid (general)	34.6% of TOTAL placements in: Domestic day worker, materials handler, yardman, maid
D	45.4% of TOTAL openings in: Materials handler, domestic day worker, warehouseman, kitchen helper, busboy/waiter, domestic maid, janitor/porter, watchman, clerk (general), sewing machine operator, lineman, bookkeeper, auto mechanic, switchboard operator, clerk-typist, general office clerk	55.4% of TOTAL placements in: Warehouseman, materials handler, domestic day worker

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[a] Data collected by Olympus Research Corporation.

TABLE 4-3 (cont.)

City	Occupations of Most Frequent Openings	Occupations of Most Frequent Placements
E	52.7% of TOTAL openings in: Materials handler, sewing machine operator, porter, metal furniture assembler, hand packager, warehouseman, rubber plant laborer, heavy-duty truck driver, clerk-typist, busboy/waiter, instrument assembler, tin can laborer, clerk (general), office clerk	25.8% of TOTAL placements in: Materials handler, metal furniture assembler
F	28.6% of TOTAL openings in: Porter, busboy/waiter, nurse's aide/orderly, clerk-typist, high school teacher, secretary, mechanical engineer, kitchen helper, pipefitter/plumber, stock clerk, maid	28.9% of TOTAL placements in: Porter, stock clerk, clerk-typist, nurse's aide/orderly, busboy/waiter, janitor, brazing machine operator, warehouseman, secretary, materials handler
G	41.0% of TOTAL openings in: Factory helper, construction laborer, kitchen helper, porter, materials handler, warehouseman, deliveryman, carpet layer's helper, busboy/waiter, maid (domestic), landscape laborer, carpenter, general office clerk, bricklayer	43.1% of TOTAL placements in: Materials handler, construction laborer, factory helper, kitchen helper, landscape laborer, warehouseman

- This would have to be true over a wide range of occupations.
- Information would have to be centralized so that it could be retrieved and and used by staff.

The Job Bank analysis illustrates with startling clarity that the bulk of the information flowing into the system through job order and placement transactions is concentrated in a small number of occupations (most of which are unskilled and unsuitable for training). Conversely, Table 4-2 shows that there are a vast number of occupations represented by transactions in the Job Bank. However, the information flow resulting from most transactions, which may include potentially suitable occupations, is scanty and infrequent. Furthermore, ORC's interviews with local office staff indicate that the "osmosis" process--knowledge accumulated by experience--is not possible. Many offices are no longer operating on the basis of occupational divisions. The person who "knows best" may be transferred, ill, or retired. An order for an air conditioning mechanic may be taken by one person on one day and by someone else on another day. A rod and chain man may be interviewed by one person one day, and placed by someone else three days later. Before the advent of Job Bank, a placement interviewer sitting at the bookkeeping desk for five years could have accumulated a considerable degree of refined information. Even then, however, there were many problems. He carried it in his head, and it left with him. Often the information was narrow and limited to a particular segment of the market which had been "cornered" by the local office. There is little doubt, however, that the advent of Job Bank and centralized order taking has reduced the accumulation of centralized occupational knowledge through the "osmosis" process. It is more difficult now to find the "person who knows." With one exception, no system has been devised to replace it.

The important point is not that ES activities are related primarily to the secondary, low-skill, low-pay market. This is not a new finding and is generally conceded by everyone inside and outside the system. What does seem significant is that orders do encompass a wide range of occupations, even though most of the orders are small and occur infrequently. Each order taken gives some information about an occupation. An accumulation of orders gives more. The flow of applicants, which is an important source of occupational information, includes a wide range of occupations--much wider than job orders, if only because of UI registration requirements. Employer relations interviewers do learn something about the different ways skills are used by various employers and what they need. Occupational analysts, where they exist and focus on occupational supply and demand, do provide in-depth information. Written data, such as occupational guides and the Occupational Outlook Handbook, add to the flow of knowledge. Each of these represents a different focus, different kinds of information, different insights about occupations. Some would contribute to knowledge about skills shortages or whether the apparent demand relates to other malfunctions in the market. Some would be helpful in determining the suitability of an occupation for MDTA training or, of even more importance, whether a segment of the market for that occupation could be made suitable for MDTA training. The remarkable fact is that despite the introduction of computerized systems, there appears to be no design for storing, analyzing, and retrieving this kind of information. Only one noncomputerized occupational data bank, previously described, makes an attempt to perform this function.

ORC is not prepared to deal with the complexities or feasibility of such a concept in this study. It can only report on its observations and findings. The teams talked, listened, looked at printouts, and asked questions; and they were unable to identify centralized occupational information--only bits and pieces here and there.

Job Order and Labor Turnover System

In ORC's efforts to uncover sources of information regarding legitimate skills shortages, an attempt was made to use validated JOLT information. JOLT data, mainly because they were available for only four cities and in sufficient detail for only two cities, did not contribute significantly to this study. A method for using JOLT information was developed after completion of the fieldwork. ORC found JOLT to be a good system for identifying skills shortages because of the validity of the sample and because the definition used to define "vacancy" is explicit. The limitation inherent in JOLT, however, is that its data are confined to manufacturing. Nonmanufacturing information is not published by occupation. Thus, JOLT is more or less valuable, depending upon the importance of manufacturing in any given area. The method developed by ORC for utilizing JOLT information is contained in the Appendix.

THE MDTA SYSTEM

This section examines the process through which MDTA institutional training programs are identified, justified, and operated. The following functions in this process are explored: the role of the MT-1 writer, the role of the selection and referral officer, the role of CAMPS and the MDTA advisory committees, the role of on-site directors of training institutions, and the participation of employers and union officials in the planning process for institutional training.

ORC's analysis of these functions is based on the interviews with: writers of MT-1s (16); SROs (15); CAMPS chairmen or executive secretaries (11); chairmen of MDTA advisory committees (6); employer interviews in each of the survey cities (25); and interviews with union and apprenticeship officials in seven cities.

The MT-1 Process

The MT-1 is essentially a proposal for the funding of an MDTA institutional training program. It contains (or should contain) all information, including demand and supply factors, needed to justify the program. Two of the most basic questions asked of the writers of MT-1s were: "How do you initially identify the need for training?" and "What do you do to justify (or certify) the need for training, or how do you justify the MT-1?" The responses to these questions are synthesized in Tables 4-4 and 4-5.

Although MT-1 writers in 13 cities responded that they conducted employer surveys to both identify and justify institutional programs, very few copies of the surveys or other written documentation of employer involvement was available. In the absence of such documentation, it is difficult to evaluate the frequency and depth of the surveys. The term "survey" could be used to indicate an extensive questionnaire sent to employers five years earlier or two phone calls made to employers within a few months previous to the interview.

Because many programs are refunded each year, MT-1 writers were asked to delineate the steps that were taken to justify refunding a program. All responded that the basic test is a check of the placement rate for the preceding year. When asked about the methods used to update this justification, six indicated some degree of resurvey with employers.

TABLE 4-4

Responses to "How Do You Justify Training Programs?"[a, b]

No. of Cities	Source	Method	Comments and Details
13	Outside ES	Employers and representatives	Of these cities, all but five made qualifying statements indicating method of survey; seldom, sometimes, 25% of the time, informal, selected telephone survey, employer representatives, also: employer organizations such as chambers of commerce, personnel officers' associations.
5		Education	Survey of public school facilities available; asked vocational education about the market; estimated number of graduates from trade schools; checked with vocational education on training facilities.
5		Unions	A number of comments indicated that these were efforts made to effect agreement about courses in which unions had some interest. Some of these efforts were unproductive.
2		Want ads	One of the cities made a regular monthly survey
2	Outside ES	Professional association	(No comments)
11	Inside ES	Local office (written)	Applicant files, survey of applicants to determine interest; Job Bank; unfilled orders, canceled orders; supervisors' reports; comments--"ES is of no help."
6		Local office (verbal)	Discussions with employer relations representatives, order-taking unit, placement unit
7	Inside ES	R & S	Labor market figures, R & S reports
4	MDTA system		CAMPS, advisory committees, operating committees, previous MDTA performance
1	Manpower programs		CEP, NAB-JOBS

[a] Data collected by Olympus Research Corporation.

[b] Two cities named less than three methods; eleven cities named three to six methods; one city named seven to ten methods.

TABLE 4-5

Responses to "How Do You Identify Training Needs?"[a,b]

No. of Cities	Source	Method	Comments and Details
7	Within ES	Local office (verbal)	This implies that opinions were solicited of local office management or staff. Of the seven cities, interviews with local office staff failed to corroborate this for two of them; also includes employer relations representatives.
5		Local office (written)	Included are the following: unfilled openings, canceled job orders, Job Bank daily openings
3	Within ES	R & S reports	One of the three is state attached, one is city attached, with highly sophisticated R & S function.
1	MDTA system	CAMPS	The only city with an active CAMPS
1	MDTA system	MDTA advisory committee	Only one city has an existing, functioning committee.
3	Manpower system	Other manpower programs	OIC, CEP, employer research, apprenticeship
5	Outside ES	Employers	Formal and informal surveys
3		Newspapers	Want ads and articles
3	Outside ES	Associations	Community organizations, executive housekeepers' association, professional meetings, private agencies
1	Education		Schools
1	Personal efforts		Personal experiences, citizen knowledge, knowledge of government programs such as medicaid, civil service announcements

[a] Data collected by Olympus Research Corporation

[b] Ten respondents mentioned 22 different items; three cities named less than three methods of identification; six cities named three to six methods of identification; one city named more than six methods of identification.

Courses repeated or converted from individual occupations to occupational clusters (i.e., clerk [general office] to a clerical cluster) do not require contact with employers and may be refunded merely on the basis of completion and placement rates, according to federal guidelines. If the dropout rate is greater than 35 percent or the placement of those who completed their training is less than 75 percent, an explanation or plan for corrective action is required. Nevertheless, six respondents stated that they re-survey employers to justify the refunding of a program. Despite the absence of written documentation, it appears that a considerable amount of contact with employers does in fact take place, particularly in the planning of new programs. This impression was gained from anecdotes related during interviews and is supported by a review of new occupations in which training has been attempted since 1969 (see city "change charts" in the Appendix).

Selection and Referral Officers

The SRO is perhaps in the best position to reflect the perceptions of the clientele about MDTA institutional programs, primarily because of his knowledge of the difficulty or ease in filling slots and the sizes of waiting lists. His contact with enrollees during the training period, his proximity to the placement process, and his continuing contact with training institutions should give him knowledge of problems related to the quality of both the training and trainees as they relate to the needs of employers.

ORC discovered, however, that the involvement of SROs in the institutional program depended to a great extent on the MDTA structure of the city, the size of the program, and the existence of a Skills Center.

In nine cities, the SRO operates alone in a local office; in five cities, he is part of an MDTA unit which also includes job developers, counselors, and often, those who write MT-1s. In situations where the SRO operates alone in a local office, his knowledge is minimal and his involvement in the institutional program insignificant. For example, one SRO in a large industrial office, when asked the extent to which the office made use of individual referrals, responded that he had no knowledge of such a program by that or any other title (some offices use the term "less than class size" for "individual referral").

ORC obtained information about the placement process from SROs, although they were not directly involved in the placement of MDTA graduates. Generally speaking, where there is an ES job developer attached to a Skills Center or to an MDTA unit, the first responsibility for placing graduates is his. It is generally agreed, however, that instructors place approximately 50 percent of MDTA graduates. Where an MDTA unit exists, a graduate not placed by the instructor or on-site job developer is referred back to the unit and the placement effort is continued. In the absence of a special unit or on-site job developer, the graduate is simply referred to the SRO in the local office or to the regular placement operation. Four cities appear to have no special arrangements for assisting MDTA graduates.

There is a considerable degree of unanimity in all the 14 cities concerning which courses are the easiest to fill and for which there are always waiting lists:

- Easy to Fill: All women's courses, including clerical, LPN, nurse refresher, nurse's aide, home attendant, child-care aide, etc. Four SROs said that there is a need for more women's courses.
- Hard to Fill: Electronics or electrical courses, motorcycle repair, office machine repair, drafting, and production machine operator.

Those cities with small program allocations responded that all programs are easy to fill.

For all of the 14 cities, SRO experience in the placement process varies widely. Welders are easy to place in one city, impossible to place in another. Auto mechanic courses are desirable from the point of view of the enrollee but poor from the point of view of the employer or placement officer. The wide range of differences expressed by SROs about the same occupations could reflect many factors: differences in economic conditions, in ES penetration rates, in the competency and dedication of staff, and of course, in the quality of training. Questions regarding employer feedback resulted in the same range of responses: some favorable, some unfavorable. One SRO believes that positive employer reactions are expressed to instructors who place the "cream of the crop" and are unfavorable to ES which attempts to place the "rejects."

In response to a question about the adequacy of the range of occupational offerings, five replied that the range is adequate, explaining that the individual referral program provides whatever flexibility is lacking in class-size projects. Nine SROs responded negatively; the major reasons cited are as follows:

- Courses offered are too narrow and not responsive to the needs of the area.
- More courses for women are needed.
- If applicants had their way, the range would be much broader, but the courses desired by applicants are not feasible.

SROs were asked whether the curriculum, the setting, and the type of training offered within an occupational group are adequately meeting the training needs of the target population. Five respondents believe that it is. The six who responded negatively offer a variety of alternatives, including the need for: (1) more basic education; (2) more specialized courses; (3) longer periods of training; (4) improved, up-to-date curricula in keeping with current technology; (5) placing the training outside high schools where enrollees feel out of place; (6) purchasing new and up-to-date equipment (particularly in auto mechanic courses); (7) making the training more accessible to either transportation or the target areas.

Underlying all responses is the consensus that MDTA cannot be expected to accomplish more than it presently is because the ability, commitment, and integrity of the target population (the disadvantaged) are too low.

The attitudes expressed by SROs are, with some marked exceptions, negative, disinterested, unknowledgeable, and unimaginative. The impression is one of stagnation. MDTA is no longer the subject of serious thought or effort. The operators--particularly the SROs--are finding it impossible to serve what appears to them to be two masters, the disadvantaged and employers.

On-Site Directors of Training

Training in the 14 cities is conducted in a variety of institutions. Eight have either "designated" or unofficial Skills Centers. In two cities, classes are being conducted in high schools and are operating only after the close of the regular school day. In four cities, classes are being conducted in community colleges and vocational schools. Most interviews were made with the persons in charge of the institutions where the bulk of MDTA programs are located.

Although most training directors would like to see the introduction of new courses (mainly in services and health occupations), the general consensus is that the first step should be the development of more specialization within existing offerings. This they believe is the key to providing a better graduate (better equipped to meet employers' needs). The majority believe that the primary barriers to the placement of graduates is the dissatisfaction of employers with the training offered, the failure of ES to do an adequate job of placement, and the overwhelming personal problems of the enrollees.

All but one of the training directors are involved with CAMPS and/or MDTA advisory committees, where and when they are functional. In two cities, an operating committee of ES and training personnel meets regularly to discuss problems. The relationship between ES and the schools is cordial. The directors express more resentment against restraints imposed on them by their own institutions than against ES. They have little respect for the method (or lack of it) used by ES for identifying training occupations and are particularly unimpressed with ES placement operations.

The consensus of all directors is that MDTA can train only for entry-level occupations because of the limited capacities of the disadvantaged and time limitations of the program. They do not believe that MDTA can be related in any significant way to filling employer skills shortages, unless entry occupations are considered "skills shortages."

CAMPS

At the time ORC conducted the fieldwork for this evaluation, CAMPS committees were in the process of being incorporated into city, county, and state governmental structures. What had once been primarily the responsibility of ES was being assumed by political appointees who were for the most part new to their jobs. At the same time they were being introduced into the complicated field of manpower planning, they were also attempting to fulfill new CAMPS guidelines. For all practical purposes, therefore, CAMPS--in a state of transition--was actually inoperative.

The precise situation ORC found was that three cities had no CAMPS committees, although two had some connection with state committees; seven had recently shifted from ES to political offices; four had not yet shifted and were operating as usual.

With two exceptions, MT-1 writers considered CAMPS either nonfunctional or nonexistent. The two positive respondents seemed to be referring to past activities of CAMPS. An analysis of interviews with CAMPS chairmen and executive secretaries yielded little data or insights of value to this study. CAMPS may evolve into a viable planning mechanism in the future; but this depends on the priority placed on CAMPS by mayors, city managers, and other officials, as well as on the quality of the staff hired to do the actual work. As of this writing, however, CAMPS is of little value in the identification, justification, and operation of institutional manpower programs.

MDTA Advisory Committees

An analysis of all MDTA system interviews leads ORC to conclude that only two of the 14 survey cities have MDTA advisory committees, currently active, which involve all significant elements of the community. Three other cities show some level of activity, one of which has formed an advisory committee during the past year. With these exceptions, it appears that MDTA advisory committees are either moribund or totally nonexistent. Whatever battles have been fought in this arena, whatever lines were drawn that carved out a place for MDTA, all had taken place long ago. MDTA advisory committees are low on the priority list of those who would normally participate in such activity, evident not only in the responses to ORC questions, but also in side remarks made by respondents. For example, one respondent stated: "It's on the bottom of everyone's list--Employment Service administrators, employers, everyone."

One active MDTA advisory committee is probably a "model" of its kind. The chairman, dean of Continuing Education at a local college,has done considerable work in the manpower field and has succeeded in activating and coordinating the various entities involved. An employer-sponsored research group provides labor market information geared specifically to the needs of vocational education. Active negotiations are taking place with unions to effect agreements for linking

MDTA to union apprenticeship programs, and the committee's recommendations to discontinue three programs and expand three others have been acted upon. If MDTA advisory committies are to be reactivated, this particular committee could serve as a model.

Employer Participation

One objective of this study is to assess the impact and nature of employer participation in the institutional program. Employer participation can take one or more of the following forms: (1) the identification and development of training programs, (2) participation in long-range planning (CAMPS, MDTA advisory committiees, etc.), and (3) participation in the development of curricula.

The first subject has already been covered; employers were surveyed, if only by phone, regarding the appropriateness of proposed programs. Although the preceding sections discussed the relative inactivity of CAMPS and MDTA advisory committees, some employers have had considerable contact with both in the past and probably will have (with CAMPS at least) in the future. Therefore, a few observations regarding their participation is appropriate.

Generally speaking, employer participation in CAMPS and MDTA advisory committees has been restricted to representatives of large companies (or to public relations executives) who are not knowledgeable about occupational demand outside their own industries and sometimes within their own industries. There is some evidence of participation by companies which are responding to Economic Opportunity Council (EOC) pressure, chambers of commerce, or an occasional employers' association (such as the General Contractors' Association); but most of this has occurred in the past. Even when employer participation was active, however, its nature raises serious questions about its value.

ORC's employer interviews, though heavily weighted with employers who have had experience with the MDTA program, reveal that a very small number have actually participated in planning for institutional programs. Moreover, few of the employers interviewed attempt serious projections about their own manpower needs; few, if any, have conducted skill inventories of their own work forces, nor do they have any real knowledge about the manpower needs of employers in their own industry, not to mention employers in other industries. Thus, the evidence of employer participation in long-range planning is weak. It may have public relations value, but its value with regard to the identification of potential training programs has been negligible.

One of the most serious complaints voiced in at least three cities by ES personnel is that vocational education staffs responsible for planning curricula make no effort, and have not established mechanisms, for obtaining employer inputs. ES staff maintain that they are in a position to reflect employers' views but are excluded from all discussion regarding the content of courses. (Interviews conducted with training directors appear to support this view.) When asked their opinions about what changes should be made in course offerings, most directors said that curricula should be more rooted in employer and industry needs, thereby implying that this has not always been true.

The directors indicated that curricula changes occasionally occur because of feedback from graduates who are either refused jobs, or after becoming employed, find that they lack all the required skills. Occasionally employers who have hired graduates call either to compliment the school or to protest some aspect of the training that has been inadequate. These are apparently hit-or-miss incidents, occurring only at the instigation of particular graduates or employers.

Perhaps the greatest degree of employer input into curricula development occurs through instructor-employer relationships. Many MDTA instructors, especially in Skills Centers, have been hired directly from industry and have excellent relationships with employers in their particular trades. If instructors maintain these contacts and keep their courses up to date, employer participation can be significant in the area where it counts most.

Most formal input by employers, however, has occurred in the past; in recent years, participation by employers on operational or course advisory committees has shown a marked decrease. As one director said, "You can't expect employers who are busy people to maintain interest and participation. There's nothing in it for them; they just quit."

Union Participation and Impact on MDTA

Questions regarding the relationship of institutional training to the trade union movement were asked of the local office managers, the writers of MT-1s, MDTA advisory committee chairman, and CAMPS chairmen. In addition, ORC conducted interviews in seven cities with union business agents, Human Resources Development (HRD) representatives, apprenticeship consultants, and state apprenticeship officials.

It should be noted that there are wide differences in the degree of unionization existing in the 14 sample areas. Right-to-work laws prevail in three states. Some cities are highly unionized with active apprenticeship programs, but at least one city has so little unionization, even in the construction industry, that major civic building projects are being constructed with nonunion labor, and apprenticeship programs are merely "paper structures."

The purpose for which the interviews were conducted was to determine the following: (1) whether these differences are reflected in MDTA occupational offerings from area to area, (2) to what extent efforts have been made to involve unions in the institutional manpower program, and (3) local office policy regarding MDTA institutional training and occupations traditionally associated with union apprenticeship programs.

ORC observed that contradictory information emerged from all sources. For example, in one city, ES staff insisted that there is no union involvement in the planning process, yet the head of the Amalgamated Clothing Workers Union said that he serves on the CEP advisory committee and on the Employment Panel of the Model Cities Agency. Information offered by ES staff repeatedly contradicted information provided by those outside the MDTA system--union officials, apprenticeship representatives, etc. It appears that there is a complete lack of communication between ES and labor unions and that ES considers the union-controlled sector of the labor market a "no man's land" (forbidden territory) as far as MDTA is concerned.

In five of the cities, unions are either totally uninvolved in the MDTA planning process or their involvement is so minimal that it is insignificant; in the remaining nine cities, unions had played major roles in the past--mainly to block MDTA incursions into apprentice trades--but since the decline of MDTA advisory committees, union participation has dwindled to almost zero.

Early union efforts to restrict MDTA training, however, are still a powerful influence on MDTA planners. In all but a few cities, unions are described as a negative force. Although labor unions do not have the authority to veto programs, few courses are proposed in certain trade union sectors (e.g., the printing and construction trades). In a few cities, preapprenticeship programs have been arranged in cooperation with unions, but these are the exception rather than the rule. Where unions are administering national OJT contracts, MDTA officials express resentment for being left out of the planning and do not believe that there is any way to link institutional training to these programs.

ES Program Letter (PL) 2088, issued on August 17, 1966, advises state agencies that when training is being considered for apprenticeable occupations, state ES personnel must consult with apprenticeship representatives regarding the coupling of the training with apprenticeship programs. The letter does not say that if union or employer apprenticeship officials refuse to cooperate, the proposed program must be dropped; but this is the interpretation given the letter by most ES personnel. In fact, the letter is interpreted by most state and local ES officials as meaning that training should not be proposed in the apprenticeable trades.

PL 2464, issued on March 14, 1969, provides guidelines to job development staff for work with employers under union-management agreements. Although this letter does not relate directly to MDTA institutional training, it provides valuable information to ES staff on the organization of trade unions, types of unions, contract relationship between unions and management, union services to members, and related information. Although this letter is directed specifically toward job developers, it could also be valuable to manpower planners in promoting coupled institutional-apprenticeship training. At the present time, however, most ES planners are wary of proposing institutional projects in union-controlled occupational areas.

One outstanding example of cooperation between MDTA and trade unions (in St. Louis) illustrates what "could be" if both institutions began to look at each other with less suspicion. In St. Louis, through the auspices of its active MDTA advisory committee and with the cooperation of an HRD representative, an agreement has been reached to train in seven apprenticeable occupations; all trainees have been assured that they will enter directly into regular apprenticeship programs upon successful completion of their training.

A review of the MDTA system reveals that the program is in the "doldrums." The economic downturn difficulties in serving two dichotomous goals--employers and the disadvantaged--and the absence of any system for arriving at rational choices regarding the occupational offerings of institutional training have sapped the energy, enthusiasm, and aggressiveness of MDTA planners and operators. Furthermore, in most cities MDTA activities are a small part of overall ES activities. MDTA, therefore, is given a low priority by most administrators and local office managers. What seems to have developed is a "system within a system." The MDTA staff sits in one office, or section of an office, and is left pretty much to itself. Every now and then there is a flurry of activity when slots have to be filled, but little else. There are exceptions, of course, but the overall impression is one of officials reduced to "going through the paces."

A partial explanation for this condition is that MDTA staffs have made many attempts, and suffered many defeats, in attempting to change the program, especially by widening the range of occupational offerings.

A review of ORC's city "change charts" reveals the extent of these attempts. The city change charts are discussed in greater detail in Chapter Five; but it should be noted here that in all 14 cities, programs for 69 new occupations have been developed since 1969. Most of these programs, however, did not survive more than one year. Yet, it is in these occupations that the attempt to innovate and break away from traditional courses is most apparent. A few examples are: surgical technician, occupational therapist, wood furniture repairman, floor layer, vineyard pruner, diesel electrician, and optical mechanic.

These programs are interesting because they represent an effort to look into the larger marketplace--outside ES activities--for potential training occupations.

The reasons that these occupations did not survive would be an interesting study in itself and could also conceivably throw additional light on the reasons that the bulk of MDTA training occurs in such a small number of occupations.

THE MANPOWER DELIVERY SYSTEM

The ES local office is the firing line, the point where the public (both employers and job seekers) meets the system. The flow of applicants and jobs forms the basis for major decisions in the MDTA planning process. Because local office activities are based on occupational assessments of applicants and jobs, it is considered the main source of occupational information relating to local labor markets. Local office managers and staff were interviewed for the following reasons: (1) to better assess the appropriateness of occupations selected for institutional training; (2) to obtain a more subtle reflection of employer needs, beyond the mere listing of occupations; and (3) to ascertain the attitudes and opinions of local office management staff regarding the program. A total of 22 local offices and seven separate Job Bank units were contacted in 12 cities.

ORC's local office survey reveals that ES nationally is in a state of flux and transition. For example, four cities operate separate occupational offices; six cities have one central office, with occupational breakdowns in a central office; and in most of these cities, plans were under way to decentralize. Four cities have no occupational breakdowns. Three cities have no Job Bank; Job Bank had been installed in three cities only six months prior to ORC's fieldwork. Two cities had installed job-matching systems. Relations with the job-seeking public ranged from traditional offices to a COMO city, with extensive self-service, Job Information Center types of operations.

The changes are a healthy manifestation of experimentation, but they have caused considerable upheavals in ES operations, particularly with respect to the reassignment of staff. As a result, information that might have been available to researchers in the "old days" is no longer available, primarily because the persons "who know" are no longer performing their old jobs, and their replacements are "green" in the labyrinthine ways of manpower programming.

Local office managers were asked how these changes affected overall ES operations. The overwhelming response was that they have adversely affected ES. Four cities believe that Job Bank has caused the loss of personal contact with employers, the loss of specialized occupational knowledge in the local office, and inaccurate DOT coding. Five offices maintain that internal reorganizations have adversely affected ES operations. Only two offices consider the changes in a positive light, both claiming that Job Bank is a selling point to employers.

In response to questions concerning penetration rates and the usefulness of JOLT information, nine offices in seven cities responded that they do not know what their penetration rates are. Four gave answers as follows: 13.5; 15; 5 to 10; and 90 percent (for clerical only). Only three offices have heard of JOLT, but even they have not seen the data. Several state offices said that JOLT data are unreliable and would not release them to ORC researchers. It is clear that if JOLT is intended as a management tool, local offices are oblivious to its possibilities.

Labor market information from R & S divisions is considered operationally useless by local office managers. Despite the installation of JOLT, Job Bank, and job-matching systems, centralized banks of detailed occupational information emanating from ES transactions do not exist in local offices, nor have methods been devised to collect, synthesize, and store information emanating from outside ES.

Local offices are not normally asked their views regarding the selection of occupations for institutional training. For example, officials in eight local offices said that their staffs had never initiated an idea for an MDTA course. In only two cities did ideas submitted by local office personnel become funded projects.

Because local office personnel have the responsibility for placing at least 50 percent of MDTA graduates (as well as many dropouts), their opinions about existing MDTA courses were sought. The consensus is as follows:

- Training in TV repair is not long enough to provide skills necessary to do the job, and many small TV repair shops have their own hiring channels that do not include minorities.
- Clerical training does not provide entry-level qualifications (the consensus in eight cities).
- Food preparation training is not successful.
- Auto mechanic training is not successful (consensus in eight cities).
- Placement of graduates in the metal machine trades is fair.
- The placement rate for welding graduates is good.

It should be remembered, however, that the local offices deal with those graduates and dropouts who have not been placed by either their instructors or the training facilities. Their views, therefore, may be somewhat jaundiced.

In an effort to learn more about specific occupations, ORC asked local office personnel (those judged to be most knowledgeable by their managers) to provide information about selected occupations and about the quality of the applicant supply. Occupations were selected either because training in that occupation was being offered or because training was not being offered in occupations that appeared on ES demand lists. The questions were designed to determine:

- Applications on file
- Why training was not being offered in some occupations
- The process for gaining entry into the occupation
- The degree of unionization
- The pay scales
- Where people go who normally seek work in the field
- Whether MDTA training could provide a "foot in the door"
- What they consider shortage occupations

Questions were asked of 62 ES frontline interviewers and supervisors concerning 61 occupations. In most occupations, according to most respondents, registered applicants exceed job orders by huge margins. This is particularly true of truck drivers, clerical occupations, food preparation occupations, metal machine occupations, and building maintenance.

With few exceptions, very little occupational information was gained from the interviews. Interviewees were not knowledgeable about occupations outside their particular scope of activities: wage scales, ports of entry, or the degree of unionization. Few knew how most people find their way into an occupation; in fact, most respondents could not even name those occupations in which union apprenticeship programs exist.

On August 18, 1966, during a period of low unemployment, ES issued PL 2082 which provided guidelines for a program to meet skills shortages at state and local levels. This letter outlined a comprehensive system for identifying skills shortages, based not only on ES transactions but on area skill, training needs, industry surveys, and occupational guides. Perhaps because ES has undergone so many reorganizations since 1966 or because of increasing unemployment rates (and declining skills shortages), the system outlined in PL 2082 has fallen into disuse (if it was ever fully implemented). This is not true in all areas, but in most of the SMSAs included in this study, the system outlined in PL 2082 either has not been implemented or has been discontinued.

The only conclusion that can be drawn is that ES is not a source of reliable or relevant occupational information; it cannot identify skills shortages, nor can it assess the relative suitability of occupations selected for institutional training as opposed to those not selected. ORC realizes that Manpower Administration programs to improve methodologies for making state and local estimates and forecasts for manpower resources and requirements enhance the expertise of state and local manpower staffs in the use of labor market information. Improvements for the dissemination of labor market information (as outlined in the 1972 Manpower Report) are now under way. However, their impact has not as yet been felt at the state or local levels.

Concerning the postulates made at the beginning of this chapter, the following conclusions emerge:

(1) Training occurs in occupations where there is generally considerable activity within ES. It is not demonstrated that the activity relates to a shortage of workers at skill levels required by the

employers, nor is it possible to determine whether the selections made are necessarily the best that could be made.

(2) A body of knowledge necessary for determining skills shortage occupations does not exist. Scattered information exists in ES, but it is not in retrievable or usable form.

(3) The knowledge that does exist in usable form is not used as productively as it could be.

THE SEARCH FOR GUIDELINES

One of ORC's objectives is threefold: to determine what guidelines are currently in effect, whether they are adequate and administratively feasible, and to what extent they are being observed.

The obvious first step was to obtain a copy of the federal MDTA Occupational Outlook Handbook. The following is a chronicle of ORC's efforts to obtain the Handbook:

(1) Called the regional office of DOL and spoke to the MDTA coordinator, requesting a copy of the MDTA Handbook. Only Chapter III, "Training Project Development," was available; but it was suggested that the others might be available in the research library. However, ORC was told that the Handbook "is obsolete."

(2) Went to the research library. It was determined that Chapter II, "Training Needs Survey," was also relevant and necessary. However, the research library had no copies. The librarian offered

to request a copy from Washington. He warned, however, that the Handbook "is obsolete" and that new material, directives, and guidelines have emerged in various forms which are not represented in the Handbook.

(3) Two ORC researchers spent four hours reviewing all ES Program Letters (ESPL), General Administrative Letters (GAL), field memos and other documents issued since July 1968, including the periodic checklists. All documents that appeared to be even vaguely related were selected and duplicated. When the librarian called Washington for Chapter II, he was reminded that the Handbook "is obsolete."

(4) Obtained a copy of the California MDTA manual, having been warned that it "is obsolete" and in the process of being redone. The northern California MDTA coordinator did not have a copy of Chapter II. He did offer to review all California division notices since 1969 to provide ORC with California's reflections of changes in national guidelines. These proved to be interesting but not significant.

(5) Telephoned all survey cities to determine whether they have state versions of federal guidelines, and if they do, to send the relevant sections. Two states responded. The rest said that they use the federal MDTA Handbook only, but to quote a few, "Did you know that it is obsolete?"

(6) Again checked with the regional DOL office and described the problems encountered. ORC was told that changes in policy do not

always come by way of written directives. They are sometimes imparted by word of mouth, at conferences, and in other forms. The DOL spokesman said, however, that the rewriting of the Handbook is now complete, but not yet available, and suggested that it might be fruitful to telephone the person responsible for redoing the Handbook.

(7) Telephone call to the San Francisco MDTA coordinator's office to determine the guidelines for refunding projects. He provided the 35 percent dropout/75 percent placement criteria. He also stated that most projects fall far below the criteria on placement but are nevertheless refunded. The promise to take corrective action, which allows the refunding to occur, is normally something like: "We'll provide more supportive services." He stated that he believes the projects are refunded because "they're all set up. They have the equipment and instructors. Nobody's going to dismantle them."

(8) Telephone call to the person in Washington, D.C., responsible for rewriting the MDTA Handbook. He reiterated that all material now in the field "is obsolete." The new version combines Chapters I, II, III, IV, etc., into one handbook. It has been completed and is now ready for publication, but not available to ORC.

Question: "Can you tell us what changes have taken place? For example, what are the guidelines for identifying and justifying an occupational choice?"

Answer: "Yes. The manual will now say that no MDTA course will be funded unless there are absolute, written promises of jobs from employers."

(9) Received Chapters II and IV, with an attached note to the effect that they "are obsolete." A comparison of the material sent from the states was made with the "obsolete" chapters. The differences are insignificant.

The search for guidelines was over. It is abundantly clear that they do not exist. This was fairly evident in the field. A number of contradictory and incongruous concepts had been evident. However, the search produced a sense of what occurs in an agency when it attempts to respond to swiftly changing and sometimes conflicting social pressures.

The introduction to this report reviews the major elements of these historic changes. In searching for the guidelines and reviewing subsequent notices and directives, ORC found that it became clear how these changes affected the operation of the program. In 1962, when the law was passed and the emphasis was on filling skills shortages through MDTA, Chapter II of the Handbook was written. It provides a rather elaborate and sophisticated method for determining shortage occupations and selecting training programs. Though inadequate in some respects, especially in the light of more recent findings about how the labor market operates, it is nevertheless a considerably more detailed and carefully thought out procedure than anything remotely related to the way in which the field is now operating. Not only does it establish a far more defined methodology, it assigns a major responsibility to R & S divisions.

In 1964 and 1965, the shifts began to occur. Congressional committees called for a more relaxed view of "reasonable expectations of employment." The agency responded by a series of directives to the field, changing the emphasis of the program. R & S gradually became phased out.

Chapter II, however, was not rescinded or replaced. It simply fell into disuse, just as obsolete laws fall into disuse. No alternatives to Chapter II were developed, nor did the requirements on the MT-1 form change significantly. The NARISCO report on MDTA systems recommended the elimination of form MT-1.[5]

The field received the message in a variety of ways, not the least of which was that the job of selecting occupations was given to minimally trained people, with limited experience in dealing with labor market information. The message clearly was that MDTA is now a vehicle for helping the disadvantaged get a job. It is not a vehicle for filling employer shortages. The two are not the same. There is no way of using the placement of graduates as a measure to determine the extent to which MDTA is effectively providing workers with requisite skills in occupations where employers have needs. The field responded exactly as it was supposed to: The carefully designed methodology described in Chapter II was inappropriate, burdensome, and obsolete. Except, no one actually said so. The MT-1 still requires that all the questions be answered and all words be the "right" words. But the field is going through an exercise it regards as essentially futile and incongruous.

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[5] North American Rockwell Information Systems Company, A Systems Analysis of the MDTA Institutional Training Program, prepared under contract with the Office of Policy, Evaluation and Research, Manpower Administration, U.S. Department of Labor (March 4, 1971).

Chapter Five

The Findings

Chapter Four described ORC's search for existing methods of determining "skills shortages" and identified occupations in which there are reasonable expectations for employment and which are suitable for MDTA institutional training. Three important factors which have a direct bearing on the material contained in this chapter emerged from this search:

- MDTA planners do not have available centralized sources of occupational information, nor do methods exist for distinguishing skills shortage occupations from those which may be in demand for numerous other reasons.
- Bits and pieces of occupational information are available to MDTA planners. These include: "hard-to-fill order" lists, computerized or hand-tabulated reports on all ES activities, the Occupational Outlook Handbook, area manpower surveys (in some areas), individual employer surveys regarding specific occupations, and suggestions from employers, unions, or committees.

- For the most part, MDTA planning is based on information derived solely from ES activities (although for new programs, employer surveys are conducted); information from the larger marketplace is generally lacking.

METHODOLOGY

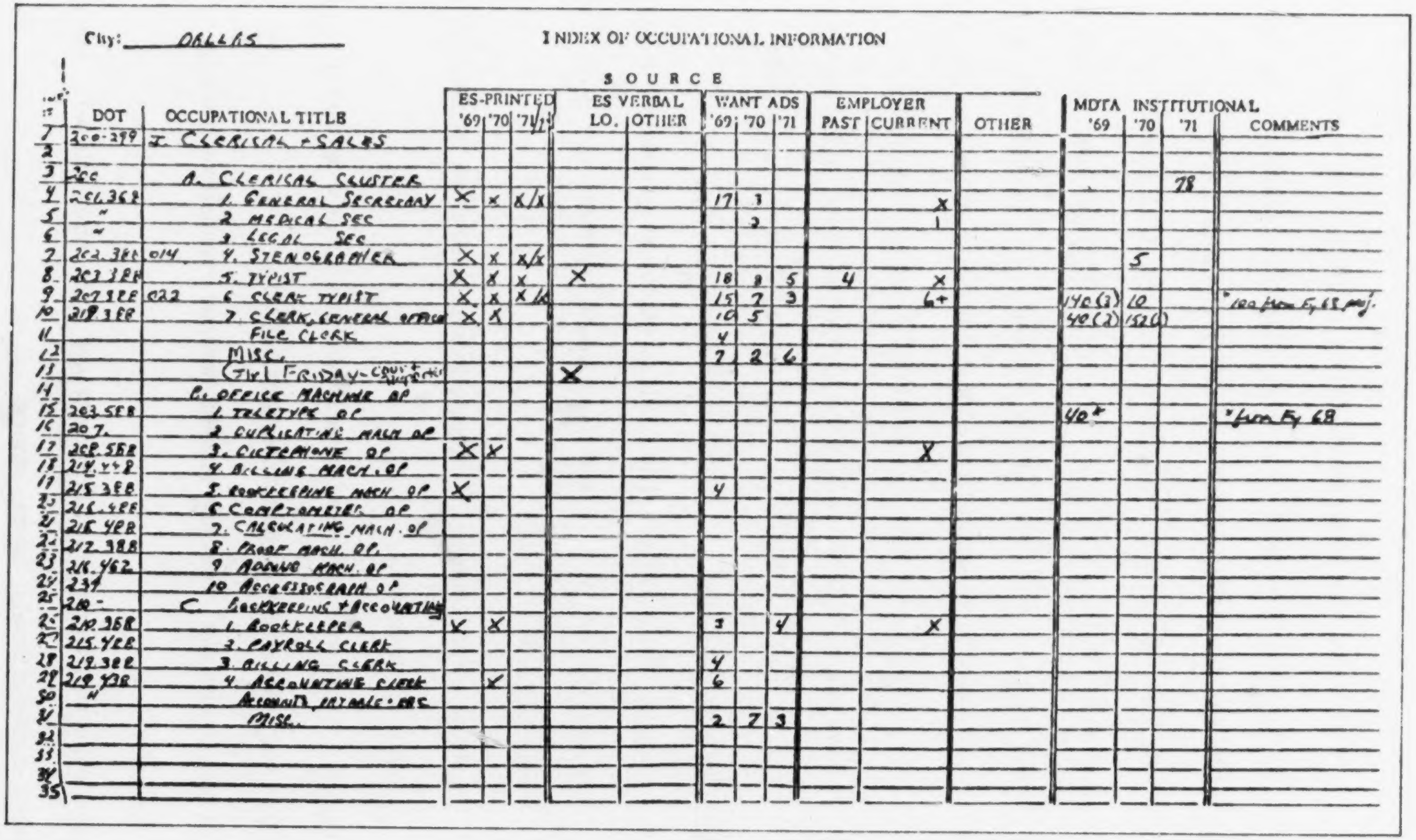
In searching for demand occupations, ORC examined hard-to-fill order lists, performed want-ad analyses, interviewed 25 employers in each area, and interviewed local office personnel, union representatives, and state and local apprenticeship officials, among others. Originally, the want-ad analyses and the employer interviews were to be used as checks on the accuracy of ES demand information. However, because ES agencies make no distinction between skills shortages and low- or high-quality, high-turnover jobs, their lists of demand occupations do not constitute sources of verifiable "skills shortage" information. The want-ad analyses and the employer interviews became, therefore, additional sources of occupational information rather than checks on what was presumed to be an existing "system."

Thus, the occupations cited in this chapter, because of their presence on ES lists and/or want-ad and employer lists, are assumed to be demand occupations. They may be in demand because of shortages of workers with the requisite skills or because of other reasons, including large occupations in which there is a consistent flow of new openings, high-turnover rates, low-quality jobs, among others. The best ORC can do is identify demand occupations which have substantial skill content.

Furthermore, since most of the information is based on ES transactions, which constitute a small portion of all labor market activity, it is almost certain that additional demand occupations (not known by either ES agencies or the evaluators) exist in each of the SMSAs included in the ORC sample.

To deal with the voluminous information collected, ORC devised an "Index of Occupational Information" (IOI). This form, 22 pages long, was filled out for each of the sample areas (see Figures 5.1 and 5.2). Occupations, divided by clusters and identified by six-digit DOT codes, are listed in the two left-hand columns. All occupations listed have appeared on ES hard-to-fill order lists, in want ads, or have been cited by employers or other sources, in one or more fiscal years. Across the top of the form, the following sources are listed:

- Employment Service
  - Printed: All hard-to-fill job orders which have appeared in AMRs in one or more of the three fiscal years (1969 through 1971), by fiscal year
  - Verbal: Nondocumented information obtained from local office and other ES personnel
- Want Ads: Information obtained by analyses of want ads, by fiscal year (method for analyzing want ads described below)
- Employer Interviews: Past and present demand occupations cited by employers
- Other: Nondocumented information obtained from union officials, state apprenticeship officials, among others



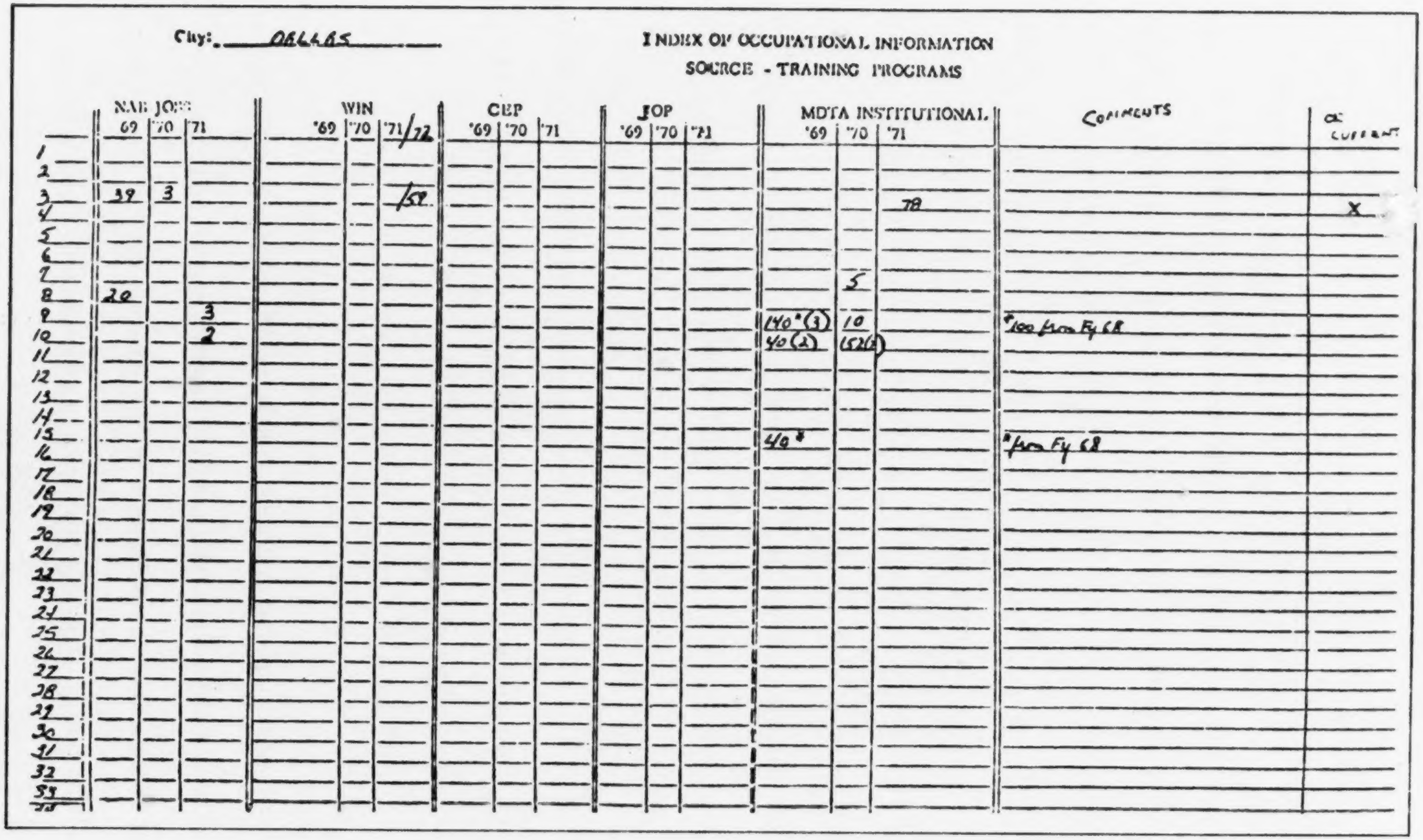
City: DALLAS

INDEX OF OCCUPATIONAL INFORMATION

SOURCE

	DOT	OCCUPATIONAL TITLE	ES-PRINTED			ES VERBAL		WANT ADS			EMPLOYER		OTHER	MDTA INSTITUTIONAL			COMMENTS
			'69	'70	'71/72	LO.	OTHER	'69	'70	'71	PAST	CURRENT		'69	'70	'71	
1	200-299	I CLERICAL + SALES															
2																	
3	200	A. CLERICAL CLUSTER														78	
4	201.368	1. GENERAL SECRETARY	X	x	x/x			17	3			x					
5	″	2 MEDICAL SEC							2			1					
6	″	3 LEGAL SEC															
7	202.388	014 4. STENOGRAPHER	X	x	x/x										5		
8	203.388	5. TYPIST	X	x	x	X		18	8	5	4	x					
9	209.388	022 6 CLERK TYPIST	X	x	x/x			15	7	3		6+		140(3)	10		*100 from Fy 68 proj.
10	219.388	7. CLERK, GENERAL OFFICE	X	X				10	5					40(2)	152(1)		
11		FILE CLERK						4									
12		MISC.						7	2	6							
13		GIRL FRIDAY-COUNT + [illegible]				X											
14		B. OFFICE MACHINE OP															
15	203.588	1. TELETYPE OP												40*			*from Fy 68
16	207.	2 DUPLICATING MACH OP															
17	208.588	3. DICTAPHONE OP	X	X								X					
18	214.488	4. BILLING MACH. OP															
19	215.388	5. BOOKKEEPING MACH OP	X					4									
20	216.488	6 COMPTOMETER OP															
21	215.488	7. CALCULATING MACH. OP															
22	212.388	8. PROOF MACH. OP.															
23	216.462	9 ADDING MACH. OP															
24	234	10 ADDRESSOGRAPH OP															
25	210-	C. BOOKKEEPING + ACCOUNTING															
26	210.388	1. BOOKKEEPER	X	X				3		4		X					
27	215.488	2. PAYROLL CLERK															
28	219.388	3. BILLING CLERK						4									
29	219.488	4. ACCOUNTING CLERK		X				6									
30	″	ACCOUNTS PAYABLE + REC															
31		MISC.						2	7	3							
32																	
33																	
34																	
35																	

Figure 5.1. Example of IOI



City: DALLAS

INDEX OF OCCUPATIONAL INFORMATION
SOURCE - TRAINING PROGRAMS

	NAB JOBS			WIN			CEP			JOP			MDTA INSTITUTIONAL			COMMENTS	α CURRENT
	69	'70	'71	'69	'70	'71/72	'69	'70	'71	'69	'70	'71	'69	'70	'71		
1																	
2																	
3	39	3				/59									78		X
4																	
5																	
6																	
7														5			
8	20																
9			3										140*(3)	10		*100 from Fy 68	
10			2										40(2)	152(2)			
11																	
12																	
13																	
14																	
15													40*			*from Fy 68	
16																	
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Figure 5.2. Example of Training Programs in IOI

The last column on the first page of the form (Figure 5.1) lists all MDTA institutional programs by slots and by fiscal year. The second page (Figure 5.2), when joined to the first page, matches other manpower training programs with the "demand" occupations listed in the left-hand column. However, ORC was not as successful as it had hoped in identifying all institutional WIN and CEP programs or in identifying, by occupation, NAB-JOBS and JOP programs. Information about institutional training conducted by WIN and CEP was not as readily available as information about regular MDTA, and a time-consuming examination of NAB-JOBS and JOP contracts was necessary to identify specific occupations. This was not possible in all sample areas. In general, however, the institutional programs of WIN and CEP are about the same as regular MDTA; in fact, both programs use existing MDTA facilities, either by referring enrollees to existing projects, or by "buying into" existing programs.

Before ORC's IOI analysis is presented, brief explanations are necessary regarding the three major sources of occupational information: ES printed, want-ad analyses, and employer interviews.

ES Printed

All occupations listed in AMRs as hard to fill, regardless of their suitability to MDTA institutional training or the methodologies used to identify hard-to-fill orders, have been checked in this column. Part of the IOI analysis consists of eliminating occupations which are unsuitable (for any reason) for institutional training.

Want Ads

Want ads in six issues of Sunday newspapers in each city were analyzed. The issues chosen for analysis were the second Sundays of April and October. These months were selected in an effort to minimize seasonal and year-end influences; Sundays were chosen because the largest array of ads appear in Sunday editions. All ads, with the exception of those listed below, were copied on specially designed forms. The following types of ads were excluded:

- Purely part-time jobs
- Commission-type sales jobs
- Jobs requiring an A.A. degree or above
- Jobs requiring more than two years of specialized education
- Jobs requiring three years or more experience
- Jobs which provide living quarters as a major portion of the compensation
- Jobs requiring no special skills for entry; e.g., "dishwasher"
- Jobs placed by private employment agencies
- Civil service announcements
- Jobs requiring special screening; e.g., "model," "dancer," etc.

Only those occupations for which there were three or more ads in each fiscal year were checked on the IOIs. All occupations for which there were only one or two ads were placed in the "miscellaneous" columns of each cluster.

Employer Interviews

Employer-cited demand occupations will be analyzed separately in this chapter. The employer interviews, mainly because of the small size of the samples for each area, were not much help to the evaluators in identifying demand occupations.

IOI ANALYSIS

There is no easy way of presenting this material. The IOIs deal with nearly 1,000 individual occupations (not clusters), spread over 14 cities in three fiscal years. Each IOI is 22 pages long and lists as many as 210 demand occupations. A city-by-city display of the IOIs would weary even the most hardened report reader. Furthermore, because the IOIs deal with detailed rather than aggregate information, there is perhaps no better way to display the information than by means of the IOI form itself. For this reason, copies of the IOIs for each of the sample areas will be presented to DOL along with this report.

Four separate analyses of the IOIs are presented in this chapter. The first illustrates how some of the major inhibitors reduce the occupational range of the institutional program. The second examines institutional training in relation to those occupations which appear to be in demand in seven or more cities or occupations which have a relatively universal demand. The third examines the relationship of MDTA to demand occupations in two cities: Dallas, Texas, which has the most active labor market of any included in the sample, and Duluth, Minnesota, which has the least active labor market. The fourth examines briefly the results of the employer interviews (the major report on the employer interviews is contained in Chapter Seven).

In performing the IOI analysis, ORC used codes to eliminate occupations which for one reason or another are unsuitable for MDTA institutional training (including outside inhibitors, such as union opposition, licensing and credentialing requirements, etc.).

The codes are as follows:

- Code 1: Outside the scope of MDTA; e.g., jobs requiring college degrees, professional occupations, etc.
- Code 2: Skill requirements too low for MDTA; i.e., low-pay, poor working conditions or high-turnover occupations
- Code 3: Within the scope of MDTA, but not under current practices; i.e., jobs which require two years or more of training, or a good deal of on-the-job experience (e.g., tool-and-die makers, some machine setup men, store managers, journeymen of construction trades)
- Code 4: Union opposition; e.g., construction trades (bricklayers, rough carpenters, sheet metal workers, etc.)
- Code 5: Licensing, credentialing, and bonding regulations; e.g., maintenance mechanic in some areas, air conditioning mechanic in some areas, armored car driver, some medical occupations
- Code 6: Against MDTA regulations; e.g., commissioned salesmen and the garment trades
- Code 7: Employer hiring practices; e.g., civil service regulations, requirements by some employers of an A.A. degree or high school diploma, and testing requirements

Labor standards legislation is mentioned in DOL's RFP as a possible inhibitor of MDTA training; however, ORC found no case where such legislation is a barrier to the institutional program.

Some of the codes require the application of a certain amount of arbitrary judgment by the evaluators. For example, code 3 (within the scope of MDTA, but not under current practice) goes to the heart of the matter of "suitability" for MDTA training. Under current practices, the average length of training in MDTA is about 29 weeks. This factor alone, of course, eliminates many occupations which would otherwise be suitable for institutional training. Although there is no hard-and-fast rule as to how long institutional training should run (except for the 104 weeks maximum), most planners opt for "lean" programs which can serve the largest number of enrollees rather than "rich" programs for few enrollees. If the limited amount of funds available is considered, this is understandable; but in coding occupations, ORC had to take into account this factor.

Distinguishing between codes 2 and 6 is also a problem in some occupations. For example, garment trades occupations are low-pay, high-turnover jobs in some areas. They are also prohibited by MDTA regulation. Should such jobs be eliminated because of the low-pay, high-turnover factors (even though they may have substantial skill content), or should they be eliminated because of MDTA regulations, or both? In the garment trades, ORC opted for code 6--"against MDTA regulations."

Judgment also had to be exercised regarding occupations which fall within both codes 3 and 4 (length of training versus union opposition). It is the opinion of many that workers can be trained for entry into some construction trades in a relatively short period of time. The question arises, therefore, as to whether it is union opposition or the short training period that is the primary barrier to MDTA training in the construction industry. ORC opted for union opposition in occupations such as sheet metal worker, bricklayer, floor layer, painter, roofer, paperhanger, plasterer, weather stripper, some electrician-related occupations, all "helpers" and, in at least one case, welder. Journeyman carpenter, electrician, plumber, pipefitter, and structural steel worker are coded in the "3" category.

Finally, it is difficult to use code 7, "employer hiring practices." Few of the employers interviewed listed education as a formal screening mechanism, yet most said that if they had to choose between two "equal" applicants, one high school graduate and one a nongraduate, they would choose the former. This, however, applies to most employers, not just a few. It is also difficult, for obvious reasons, to identify employers who discriminate because of race or sex. The only hiring practice that could be positively identified in this area is the use of testing as a screening mechanism, and this applies mainly to civil service agencies. Employer hiring practices will be discussed more extensively in the section on inhibitors.

OVERVIEW OF MAJOR INHIBITORS

A total of 905 occupations appears on the IOIs in one or more fiscal years, through one or more sources (ES printed, ES verbal, want ads, employer interviews, or other). Of these, ORC eliminated 345, or 38 percent, by applying the codes. The breakdown is as follows:

- Total occupations listed, by any source, in one or more fiscal years: 905
- Total occupations eliminated by code: 345
- Remaining occupations: 560
- Breakdown by code:
  - -- Code 1: Outside scope of MDTA: 44
  - -- Code 2: Insufficient skills for MDTA: 87
  - -- Code 3: Within scope of MDTA, but not under current practices: 108
  - -- Code 4: Union opposition: 77
  - -- Code 5: Licensing and credentialing requirements: 5
  - -- Code 6: Against MDTA regulations: 17
  - -- Code 7: Employer hiring requirements: 7

Of the 560 occupations that remain after the codes have been applied, MDTA is training in 91 (Table 5-1), leaving a final total of 469 "demand occupations" in which there is little or no MDTA institutional training. This does not mean, however, that the remaining 469 occupations are legitimate demand occupations, are any more suitable to MDTA training than the occupations in which training is being conducted, or have substantial skill content. The major purpose of this exercise is to narrow the MDTA "playing field" by identifying major inhibitors or by eliminating those occupations which are not suitable to institutional training (either because they are beyond its scope or are too low skilled to be fit subjects for the program).

Codes 1 and 2 are not inhibitors; they merely eliminate those occupations which cannot and should not be subjects of MDTA institutional training. Of the

TABLE 5-1

Overview of MDTA Institutional Training (Fourteen areas; fiscal years)[a]

Cluster	Number of Occupations	Number of Slots	Percentage of Total Slots
Clerical	10	3,605	31.7%
Automotive	13	1,360	12.0
Medical occupations	9	1,113	9.8
Welding	4	1,093	9.6
Machine trades (metal)	5	1,054	9.3
Upholsterer/alteration tailor	2	458	4.0
Nonauto repair	11	407	3.6
Food services	4	412	3.6
All other	33	1,895	16.4
TOTAL	901	11,397	100.0%
Breakdown of "all other"			
Sales	2	270	
Laundry and dry cleaning	3	207	
Assemblers	3	205	
Building maintenance	1	138	
Construction and painting	4	135	
Environmental	2	135	
Printing	2	130	
Home attendant/child care	2	120	
Draftsman	2	169	
Woodworking	2	80	
Construction engineer aide	1	72	
Instrument man	1	40	
Cosmetologist	1	44	
Fish cleaner/freezer	1	30	
Optical mechanic and industrial lens grinder	2	25	
Vineyard pruner	1	25	
Patrolman	1	20	
Executive housekeeper	1	20	
Heating, cooling, air conditioning	1	30	
TOTAL	33	1,895	

[a] Data collected by Olympus Research Corporation.

inhibitors (codes 3 through 7), only codes 3 and 4 could be considered "major." Of the 774 occupations remaining after codes 1 and 2 have been subtracted from the total (905), 24 percent, or 185 occupations, are eliminated by application of codes 3 and 4. Only 4 percent are eliminated by application of codes 5 through 7.

Thus, it appears that licensing and credentialing regulations, MDTA regulations, and employer hiring practices are not major inhibitors of the institutional program. The major inhibitor is the short length of MDTA training under current practices (code 3). The vast majority of occupations eliminated under code 4 (union opposition) are in the printing and construction trades.

Further discussion on barriers to the institutional program is contained in a special section of this chapter, "Inhibitors." It should be emphasized here, however, that barriers caused by employer hiring practices are hard to document or quantify. In some areas of the country, these may be formidable inhibitors in all occupations; in others, they may be major barriers in some occupations. Figures 5.3 and 5.4 provide a graphic display of the overview of major inhibitors.

Legend (Figures 5.3 and 5.4)

Code	Category
①	Outside scope of MDTA
②	Insufficient skills for MDTA
③	Within scope, but not under current practices
④	Union opposition
⑤	Licensing and credentialing requirements
⑥	Against MDTA regulations
⑦	Employer hiring requirements

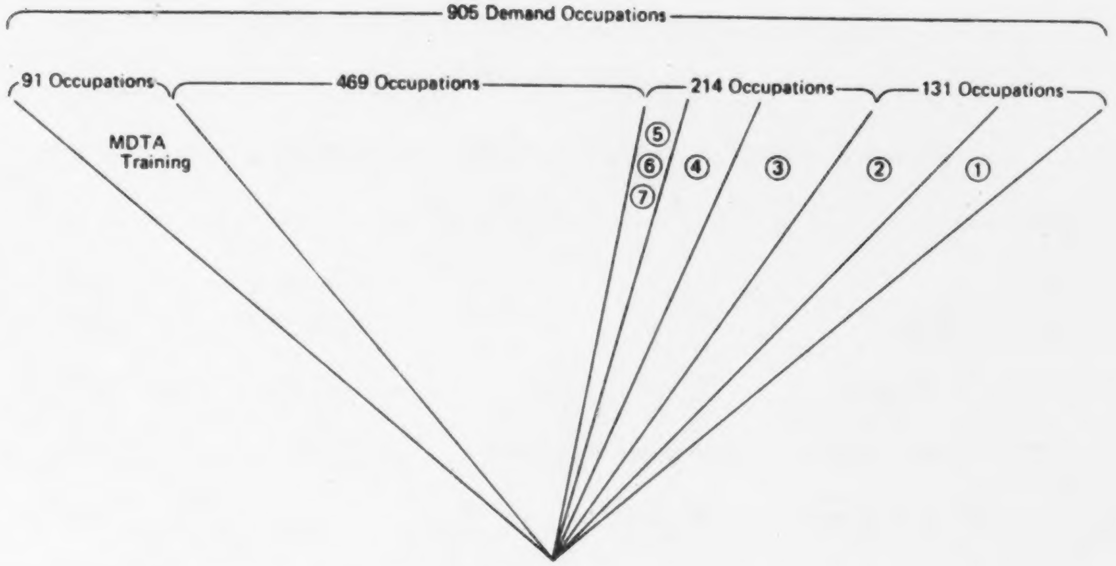
905 Demand Occupations
91 Occupations
469 Occupations
214 Occupations
131 Occupations
MDTA Training
⑤
⑥
⑦
④
③
②
①

Figure 5.3. Major Inhibitors in the "World" of MDTA

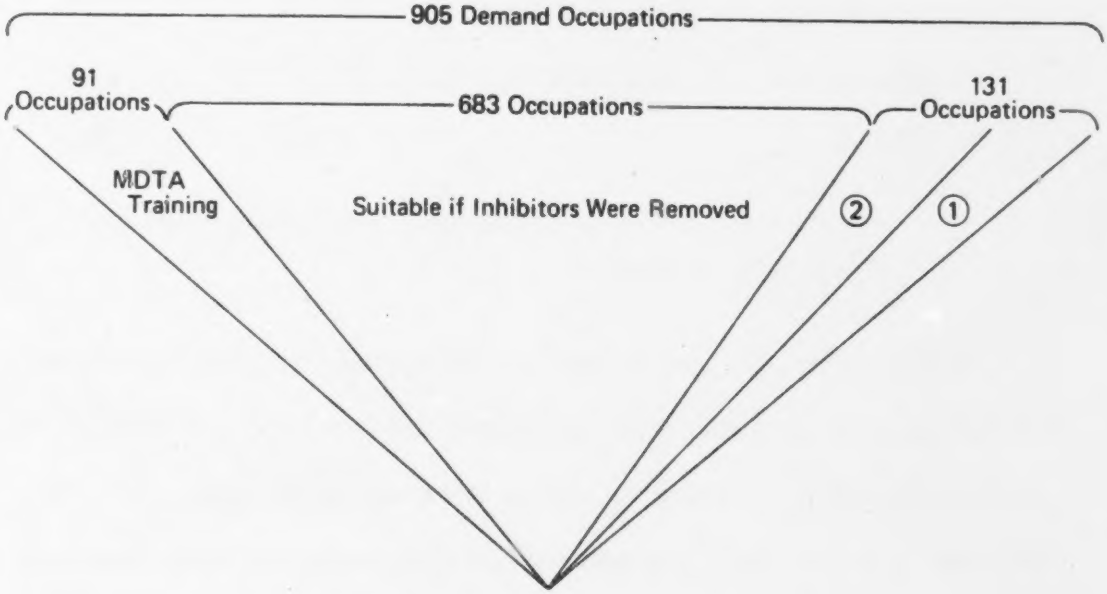
905 Demand Occupations
91 Occupations
683 Occupations
131 Occupations
MDTA Training
Suitable if Inhibitors Were Removed
②
①

Figure 5.4. "World" of MDTA Minus Major Inhibitors

After applying the codes and arriving at a total of 560 occupations, ORC attempted to identify those occupations which have "substantial skill content," and in which there is little or no MDTA training. The following occupations were identified:

Cluster	Number of Occupations	MDTA Slots
Draftsmen	12	169[a]
Nonmedical technicians and assistants	17	None
Bookkeeping and accounting	5	None[b]
Computer and data processing	3	None
Woodworking occupations	18	80
Truck and heavy equipment mechanics	6	35
Heating, cooling, and air conditioning	7	30
TOTAL	68	314

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[a] Most drafting is for one occupation, "mechanical draftsman."

[b] Excluding "accountant" or "CPA."

MDTA training was concentrated in 58 occupations which have substantial skill content. The remainder (434), although suitable for MDTA, were judged as not having substantial skill content. Among these are the following: sales jobs (clerks and cashiers, etc.), miscellaneous clerical occupations (various kinds of file clerks, shipping and receiving clerks, etc.), food service occupations (waiters, waitresses, sandwich and salad makers, etc.), foundry occupations, semi-skilled metal working occupations, food processing occupations (dough mixer, fish cleaner, poultry dresser, etc.), various kinds of assemblers, and miscellaneous semiskilled processing occupations.

It should also be mentioned that 38 of the 560 occupations (those remaining after codes have been applied) are in the metal machine trades cluster. Although this is a popular MDTA offering, trainees are exposed to an average of only five production machines.

DEMAND OCCUPATIONS IN SEVEN OR MORE CITIES

Table 5-1 gives a three-year overview of institutional training in the 14 areas. A total of 58 occupations in eight clusters account for 83 percent of all institutional slots; 32 occupations in 18 clusters account for 16 percent of all slots. With this table as a base, this analysis attempts to identify occupations which appear to have a universal demand and which have substantial skill content and in which there is little or no MDTA institutional training. Employer-cited demand occupations have not been included in this exercise because as was stated previously, the employer sample is not large enough to be used as a check against occupations appearing in the ES printed and want-ad columns. Thus, only ES and want-ad indicators are used in this analysis.

ES "hard-to-fill" order lists and the want-ad analyses indicate that 309 occupations appear "in demand" in seven or more cities. Of these, ORC eliminated 73, or 23 percent, by applying the codes. The breakdown is as follows:

- Total occupations in demand in seven or more cities: 309
- Total occupations eliminated by code: 71

- Remaining occupations: 238
- Breakdown by code:
    - Code 2: Insufficient skills for MDTA: 2
    - Code 3: Within the scope of MDTA but not under current practice: 20
    - Code 4: Union opposition: 28
    - Code 5: Licensing and credentialing regulations: 4
    - Code 6: Against MDTA regulations: 17

Of the 91 occupations in which MDTA courses are conducted (in any of the fiscal years), only nine do not show up as demand occupations in seven or more cities. Thus, MDTA is conducting courses in 82 of the 238 "remaining occupations," leaving a total of 156 occupations in which there are no MDTA courses (see Figure 5.5). Of these, only the following could be considered to have "substantial skill content":

- Electronic technician
- Miscellaneous nonmedical technicians
- Bookkeeping and accounting occupations
- Keypunch operator and other semiskilled data processing occupations
- Nonmetal machine trades
- Truck and heavy equipment mechanics
- Heating, cooling, and air conditioning occupations

Table 5-2 provides a more detailed look, by fiscal year, of this "world." The left-hand column lists occupations (some specific, some clustered) which appear to be in demand in seven or more cities. The source of the demand

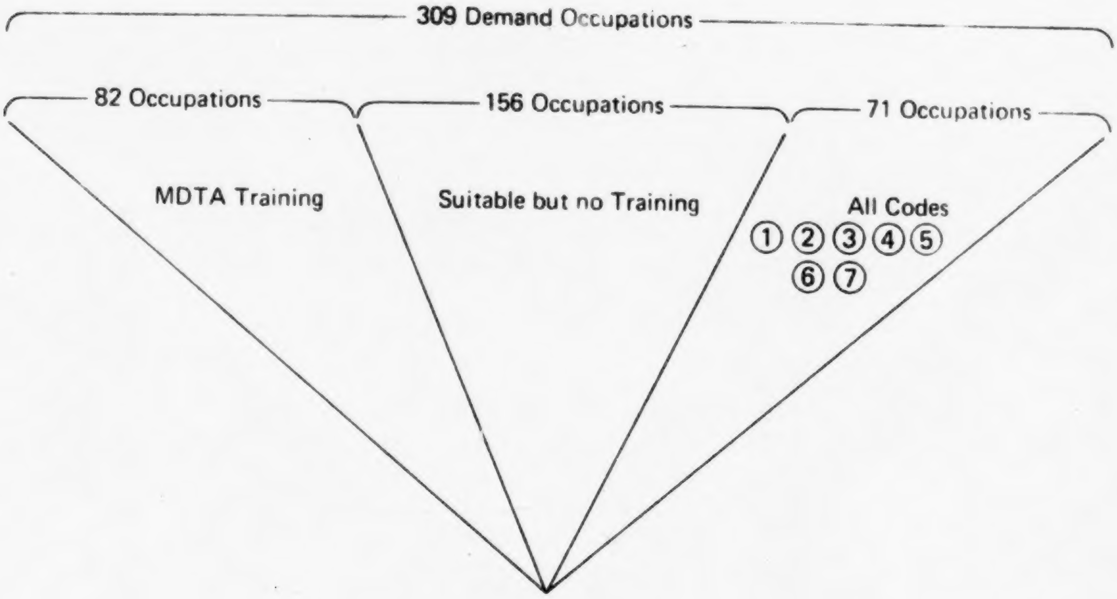
309 Demand Occupations
82 Occupations
156 Occupations
71 Occupations
MDTA Training
Suitable but no Training
All Codes
① ② ③ ④ ⑤
⑥ ⑦

Figure 5.5. Relationship of MDTA Institutional Training to Occupations in Demand in Seven or More Cities

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Legend

Code	Category
①	Outside scope of MDTA
②	Insufficient skills for MDTA
③	Within scope, but not under current practices
④	Union opposition
⑤	Licensing and credentialing requirements
⑥	Against MDTA regulations
⑦	Employer hiring requirements

TABLE 5-2

Occupations "In Demand" in Seven Cities or More (1969-71)[a]

Occupation	ES Only			Want Ads Only			ES and Want Ads			Demand Rating[b]	MDTA			No. of Cities
	'69	'70	'71	'69	'70	'71	'69	'70	'71		'69	'70	'71	
Draftsman (misc.)				X	X	X				3	X	X	X	5
Architectural draftsman									X	2				
Electronic draftsman									X	2		X		1
Mechanical draftsman		X							X	3	X	X		2
Structural draftsman									X	2				
Electronics technician									X	2				
Misc. nonmedical technician				X	X	X				3		X		1
Dental assistant								X	X	4				
LPN/RN							X	X	X	6	X	X	X	2
Nurse's aide									X	2	X	X	X	5
Misc. medical							X	X	X	6	X	X	X	7
Clerical cluster							X	X	X	6	X	X	X	12
Office machine operator									X	2	X	X		3
Bookkeeping and accounting cluster							X	X	X	6				
Keypunch operator							X	X	X	6				

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[a] Data collected by Olympus Research Corporation.

[b] If the occupation appears in both ES and want ads for any fiscal year (column 4), it is given a demand rating of 2; if it appears in either the ES only (column 2) or want ads only (column 3) but not in both at the same time, it is given a demand rating of 1.

TABLE 5-2 (cont.)

Occupation	ES Only			Want Ads Only			Es and Want Ads			Demand Rating[b]	MDTA			No. of Cities
	'69	'70	'71	'69	'70	'71	'69	'70	'71		'69	'70	'71	
Misc. data processing				X	X	X				3				
Shipping and receiving							X	X	X	6				
Sales/clerical cluster							X	X	X	6	X	X	X	2
Wholesale sales cluster							X	X	X	6				
Food preparation								X	X	4	X	X	X	8
Meat cutter/butcher									X	2				
Cosmetologist								X	X	4	X	X		1
Metal machine trades								X	X	4	X	X	X	7
Printing occ's				X				X	X	5	X	X	X	3
Misc. mach. trades (nonmetal)				X				X	X	5			X	1
Auto mechanics cluster							X	X	X	6	X	X	X	10
Auto body repair								X	X	4	X	X	X	8
Auto service sta. attn'd							X	X	X	6	X	X	X	5
Truck and heavy equip. cluster				X				X	X	5			X	1
Heating, cooling and A/C				X				X	X	5			X	1
Electrical/electronic cluster							X	X	X	6		X	X	2
TV serv. repair									X	2		X		1
Assemblers				X				X	X	5	X		X	2
Upholsterer				X				X	X	5	X	X	X	2
Welding cluster							X	X	X	6	X	X	X	10

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[b] If the occupation appears in both ES and want ads for any fiscal year (column 4), it is given a demand rating of 2; if it appears in either the ES only (column 2) or want ads only (column 3) but not in both at the same time, it is given a demand rating of 1.

TABLE 5-2 (cont.)

Occupation	ES Only			Want Ads Only			ES and Want Ads			Demand Rating[b]	MDTA			No. of Cities
	'69	'70	'71	'69	'70	'71	'69	'70	'71		'69	'70	'71	
Arch. welder	X		X				X	X		6	X	X	X	9
Welder/fitter and helper			X				X	X		5				
Sheet metal worker		X	X				X			4				
Electrician, journeyman							X	X	X	6				
Painter (constr.)				X		X		X		4				
Carpenter (constr.)							X	X	X	6		X	X	2
Bricklayer							X	X	X	6				
Plumber/pipefitter							X	X	X	6				
Roofer				X				X	X	5				
Maintenance (struc.)							X	X	X	6	X	X	X	2
Building maintenance							X	X	X	6	X	X	X	2
Transp. occ. (driver)							X	X	X	6				

[b] If the occupation appears in both ES and want ads for any fiscal year (column 4), it is given a demand rating of 2; if it appears in either the ES only (column 2) or want ads only (column 3) but not in both at the same time, it is given a demand rating of 1.

information is listed in columns 2 through 4. If the source is ES only, the occupation is checked under the appropriate fiscal year in column 2; if the source is want ads only, it is checked in column 3; if the source is both ES and want ads, it is checked in column 4. In column 5, each occupation is given a "demand rating." An occupation which appears on both ES lists and want ads (column 4) receives a score of 2 points; thus, if an occupation appears in both ES lists and want ads for three fiscal years, it receives a demand rating of 6. If an occupation appears only on ES lists or want ads but not in both at the same time (columns 3 and 4), it receives a 1 for each fiscal year that it appears; e.g., an occupation which appears on ES lists but not in the want ads for three fiscal years receives a score of 3 or vice versa. The last two columns indicate whether institutional programs were conducted in the occupation, by fiscal year, and the number of cities in which courses were conducted.

The following conclusions can be drawn from Table 5-2:

- In the sample areas, MDTA is training heavily in five occupations which have high demand ratings: clerical, auto mechanics, welding, medical occupations (except LPN), and mechanical drafting.
- There is very little institutional training in the following occupations which have high demand ratings: LPN[1]; building maintenance; electric and electronics occupations; carpenter; assembler; sales clerk; upholsterer; and heating, cooling, and air conditioning occupations.

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[1] On a national basis, 6 percent of all MDTA slots in fiscal year 1972 were allocated to LPN.

- There is no institutional training in the following high-demand occupations: bookkeeping and accounting, keypunch operator,[2] shipping and receiving occupations, wholesale sales occupations, electrician, bricklayer, plumber, transportation occupations, sheet-metal worker, and roofer.
- There is heavy institutional training in the following medium demand (demand rating of 4 or less) occupations: nurse's aide, food-preparation occupations, metal machining occupations, and auto body repair.

Some of the occupations listed above do not have significant skill content or are low-paid, high-turnover jobs. These are: assembler, sales clerk, upholsterer, and shipping and receiving occupations. In addition, "building maintenance" means "janitors" to many minorities; as a result MDTA planners are reluctant to propose such courses. If these courses are eliminated from the overall list, the following occupations--in which there is little or no institutional training--are left:

- LPN
- Electric and electronics occupations
- Carpenter
- Heating, cooling, and air conditioning occupations
- Bookkeeping and accounting
- Keypunch operator
- Wholesale sales occupations

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[2] In fiscal year 1971, a total of 1,311 persons were enrolled nationally in keypunch operator and related data processing occupations.

- Electrician
- Bricklayer
- Plumber
- Transportation occupations
- Sheet metal worker
- Roofer
    - LPN: This course would exist in at least two more cities if state licensing agencies would accept MDTA training. Thus, code 5 applies partly to this occupation.
    - Carpenter: This is a union-controlled apprenticeship occupation (code 4).
    - Heating, cooling, and air conditioning occupations: There are approximately 10 occupations included in this group. In some areas, licenses are required for air conditioning mechanic and for heating equipment installation and maintenance. The air conditioning field is divided into at least three segments: fabrication, construction, and maintenance and repair. The construction segment is generally controlled by sheet-metal and plumber unions (code 4). Maintenance and repair could be a fertile field for MDTA; however, the manufacturers and dealers of air conditioning equipment generally sell service contracts to their customers and have training programs for workers to service these contracts. In addition, many private schools specialize in

the air conditioning field. MDTA, therefore, would face stiff competition. Fabrication of air conditioning units depends on whether air conditioning units are manufactured in the areas.

-- Electrician, plumber, sheet metal worker, bricklayer, and roofer: These occupations are generally controlled by union apprenticeship programs (code 4).

-- Transportation occupations: These are driving occupations--heavy truck driver, light truck driver, bus driver, etc. They are perhaps better suited to on-the-job than institutional training.

Thus, after eliminating the occupations listed above, only four occupations or groups of occupations (with substantial skill content and in which there is little or no MDTA training) are left: electric and electronics, bookkeeping and accounting, wholesale sales occupations, and keypunch operator. Segments of the heating, cooling, and air conditioning cluster and LPN could be added to these in some areas.

This analysis shows that the MDTA institutional program, lacking comprehensive occupational information, has nevertheless managed to "carve out" a piece of the market upon which it concentrates. Most of its occupational offerings appear to be demand occupations; its range could be widened[3] considerably if:

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[3] It is difficult to judge the effect that a longer training program would have on the range of occupational offerings. Many of the occupations eliminated because of length of training (code 3) are union controlled, such as boilermaker, electrician, plumber, tool-and-die maker, "machinist" as opposed to "machine operator," printing trades, etc. Others may require experience more than training, such as maintenance mechanic, store manager, office manager, etc. It seems safe to assume, however, that if the period of training was lengthened,

(1) Planners had access to occupational information about local areas not limited primarily to ES activities

(2) Some of the barriers now existing could be eliminated

(3) The period of training could be lengthened

Within these severe limitations, the program seems to be operating as best it can.

TWO-CITY ANALYSIS

Duluth, Minnesota

An indication of Duluth's somewhat moribund labor market is that not one of its "demand" occupations appears both on ES lists and want ads in any of the three fiscal years in question. Some occupations appear on ES lists in one or more fiscal years, some in the want ads, but never do they appear in both at the same time. In fiscal year 1969, 11 occupations appear in the want ads and none on ES lists. These are: miscellaneous medical, bookkeeping and accounting, clerical, wholesale salesmen, cosmetologist, chemical processing, metal machining, roofer, and nonmetal machining. Employers interviewed in Duluth cited five demand occupations: metal machining, maintenance mechanic, millwright, shoe repair, and electrician.

MDTA would be able to train in a host of machine "setup" occupations, highly skilled woodworking occupations, "first class" cooks and chefs, electronics occupations, shoe repair, some aircraft occupations, air conditioning occupations, more drafting occupations, wholesale sales occupations which require technical knowledge, highly skilled legal and medical secretaries, bookkeeping and accounting occupations, and more highly skilled medical occupations (such as medical technician and X ray radiological technician), among others.

Duluth's institutional program in 1969 (excluding CEP) included the following offerings: mechanical draftsman, health occupations, clerical, cook, and welding.

Thus, two of Duluth's five offerings are in demand occupations (if want ads are a legitimate indication of demand): medical occupations and clerical. There is no indication of demand in the other three: mechanical draftsman, cook, and welding. There are no institutional offerings in any of the employer-cited demand occupations. However, four of those occupations fit into one or more of the codes: maintenance mechanic (3), millwright (3), shoe repair (3), and electrician (4). Metal machining is the only employer-cited occupation that checks with the want ads.

In fiscal year 1970, Duluth's institutional offerings were: food preparation, mechanical draftsman, health occupations, clerical, gas engine repair, and welding. Nine different health occupations appear in the want ads; two (not the same as those in the want ads) appear on ES lists. Three different clerical occupations appear on ES lists, one in the want ads. One welding occupation appears on ES lists and another in the want ads. These are the only MDTA occupations that show any demand activity. There is no indication of demand in food preparation, gas engine repair, or mechanical draftsman.

The Duluth situation was very nearly the same in fiscal year 1971. There was some indication of demand in the same three offerings -- welding, clerical, and medical occupations -- but there was no indication of demand in auto service or food preparation.

The problem with Duluth is that no occupation or cluster of occupations, with the possible exception of clerical and medical occupations, shows a persistent or even periodic demand. As a result, MDTA planners call employers and grasp at straws.

Dallas, Texas

If the Duluth economy can be described as moribund, the Dallas economy is just the opposite. In fiscal year 1969, a total of 22 occupations or clusters of occupations appears in demand on both ES lists and in want ads. Table 5-3 shows the correlation between Dallas' institutional program and occupations which appear to be in heavy demand. Listed above the dividing line in the table are occupations in which there has been institutional training; for these occupations all indicators of demand are shown. Below the line are occupations in heavy demand; i.e., that appear on ES lists and in want ads.

In 1969, six of Dallas' nine institutional offerings appeared to be in heavy-demand occupations; in 1970, four out of five; and in 1971, three out of six. The interesting factor in the Dallas situation is that in 1969, Dallas had 17 heavy-demand occupations from which to choose institutional programs; in 1970, 16 occupations were in heavy demand. In 1971, the figure drops to nine.

Yet, in both 1969 and 1970, Dallas selected three occupations in which the demand appears to be light, and in 1970, one light-demand occupation was selected. Furthermore, the heavy-demand occupations are approximately the same as those that appear in other areas of the country: clerical, metal machining, automotive, and welding. Six of the 11 heavy-demand occupations in which

TABLE 5-3

Correlation between MDTA and Demand Occupations--Dallas, Texas[a]

Occupation or Cluster[b]	ES Only			Want Ads Only			ES and Want Ads			MDTA					
	'69	'70	'71	'69	'70	'71	'69	'70	'71	'69	Slots	'70	Slots	'71	Slots
Medical technologist	X	X												X	17
Clerical cluster							X	X	X	X	180	X	167	X	78
Office machine operator							X	X	X	X	40				
Money handlers							X	X	X	X	240				
Wholesale sales (auto parts)		X		X		X				X	120				
Metal machining							X	X	X	X	180	X	67		
Automotive cluster							X	X	X	X	40	X	85	X	41
Small engine repair														X	22
Alteration tailor	X	X	X							X	80	X	62	X	28
Welding							X	X	X	X	40	X	70	X	19
Projection printer		X								X	100				
LPN								X	X						
Keypunch operator							X	X	X						
Cook							X								
Offset pressman								X	X						
Aircraft mechanic							X								
Air conditioning mechanic								X							
TV service and repair							X		X						
Maintenance mechanic							X	X							
Sheet metal worker							X	X							
Electrician							X	X							
Painter								X							
Carpenter (construction)							X	X							
Bricklayer							X								
Pipefitter							X	X							
Building maintenance							X								

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[a] Data collected by Olympus Research Corporation.

[b] The occupations listed above the broken line are those in which institutional training has been conducted, those below are "heavy-demand" occupations in which there has been no institutional training. Regarding the occupations above the broken line: If the occupation appeared in both ES and want ads ("heavy demand"), it is checked in column 4; if it appeared in either ES only or want ads only, but not in both at the same time, it is checked in either column 2 or 3.

there is no MDTA training (in fiscal years 1969 and 1970) are in building trades. However, in Dallas the building trades are only about 50 percent organized, and in the home building industry, the percentage is even less. Since Texas is a "right-to-work" state, it would seem that Dallas would be an appropriate area for experimenting with building trades programs, possibly with the cooperation of unions (which are looking to increase their membership). Yet, no such programs have been attempted.

The other heavy-demand occupations are: LPN (which may encounter licensing problems in Dallas), keypunch operator, cook, aircraft mechanic (in which NAB-JOBS has staked a claim), air conditioning mechanic, TV service and repair (in which MDTA has experienced very little success, possibly because of the short training period), maintenance mechanic (which generally requires many years of experience), and building maintenance (which is unpopular with the program clientele).

Dallas is a prime example of the paucity of occupational information existing within the system. In 1969, the Dallas unemployment rate was only 1.5 percent; literally all occupations were in demand. Yet the system managed to identify only 10 heavy-demand occupations (excluding building trades crafts) which are suitable for MDTA training. The record shows that institutional training was offered in six of these occupations--the same programs that appear in most other areas of the country where the unemployment rates were substantially higher.

EMPLOYER INTERVIEWS

Occupations cited as "shortage" by employers are the most difficult to analyze for several reasons. First, most employers could not state with certitude in which years they experienced difficulties in recruiting qualified workers; for this reason, employer-cited demand occupations are listed "past" and "present," not by fiscal year. Second, although many of the same types of employers (especially employers who hire MDTA institutional program graduates) were interviewed in each area; the types of employers interviewed varied widely from area to area. Because of this, many of the employer-cited occupations are different from those obtained through ES lists and want ads. At first glance, this might seem to be a legitimate "check" on the other sources; actually, it is not (because many of the employers interviewed are unique in their own areas). For example, the only foundry employer in any given area might cite five different occupations for which he has, or has had, difficulties in recruiting. These occupations could not be considered by any definition as demand occupations. Third, because a sample of employers who hire MDTA graduates is included in the overall sample for each area, it is inevitable that MDTA occupations appear as demand occupations in every area. Fourth, when an employer cited occupations for which he has difficulty in recruiting, he was asked how many such positions exist in the company and how many of the positions were open at the time of the interview, or at the time he experienced the shortage. Most employers could not (or would not) answer either of these questions, thus making it almost impossible to quantify demand occupations cited by employers. Finally, the fact that checks cannot be found in the employer column for occupations which are checked in the ES and want-ad columns means only that ORC may not have interviewed employers who hire in those occupations. Thus, there is no real correlation between the employer column and the ES and want-ad columns.

With these points in mind, we note that two observations emerge from the employer interviews. First, in only six cities did employers cite demand occupations in all fiscal years:

- Anchorage: Sixteen occupations, of which six are suitable to MDTA training. Of the six, institutional programs have been conducted in one, cook.
- Dallas: One occupation, clerical, in which there has been institutional training in all three fiscal years.
- Milwaukee: Five occupations, of which three are in the construction trades and one is a foundry occupation. Institutional programs have been conducted in all three fiscal years in the fifth occupation, welding.
- Salt Lake City: One occupation, diesel mechanic, in which there has not been institutional training.
- Wilmington: Three occupations, of which one is in the foundry cluster. Of the remaining two, diesel mechanic and welder, institutional training has been conducted in welder.

Second, as might be expected, traditional MDTA occupations are cited by employers in almost all of the 14 areas. As was stated previously, however, because ORC included employers of these occupations (employers of MDTA graduates) in the area samples, this observation does not have great significance.

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THE DYNAMICS OF CHANGE

Although 56 occupations account for more than 83 percent of all institutional slots in the 14 cities, the evidence shows that MDTA planners have attempted, and are continuing to attempt, to broaden the range of occupational offerings. The evidence also indicates that MDTA planners, for the most part untrained in analyzing detailed statistical methodologies and data (what little exist), nevertheless go outside the system in their attempts to discover new and innovative training programs. City "change charts" are contained in the Appendix. They show, by occupational offering, all new courses instituted since 1969, three-year repeats, and courses which have lasted one year only. This information is summarized, not by occupational offering, in Table 5-4.

Several important observations emerge from these charts:

- Some of MDTA's most interesting and innovative courses are tried for a year and then dropped. The reason seems to be that completion and placement rates for the new courses fall far below existing norms. The result is that planners retreat to so-called "safe" courses; i.e., courses with which they are familiar and for which the performance prognosis is more predictable.
- Change is more likely to occur in cities where institutional training is funded on a project-by-project basis. Where Skills Centers or multi-occupational projects exist, courses change less frequently. For example, in Fresno, which has no Skills Center, course offerings change almost completely each year. Only one of Fresno's 15 offerings lasted

TABLE 5-4

MDTA Occupations--Dynamics of Change[a]

Cities	No. of Different Occ's (All years)	New since 1969	Dropped since 1969	No. for All Three Years	No. for Two Years	No. New for This Year	One Year Only (1969 or '70)
Anchorage	5	2	3	0	1	1	3
Dallas	10	4	3	4	3	2	3
Duluth	7	1	3	5	1	0	1
Fresno	15	9	12	0	1	2	10
Miami	21	13	16	5	2	1	14
Milwaukee	9	1	3	5	2	0	1
Montgomery	11	4	8	2	3	1	5
New Haven	4	2	0	0	2	2	0
New Orleans	16	7	12	2	2	2	12
Paterson	10	7	3	1	0	5	3
Rochester	10	3	4	3	3	0	3
St. Louis	19	7	5	8	4	1	5
Salt Lake City	11	5	6	0	6	1	6
Wilmington	11	4	2	4	3	1	2

[a] Data collected by Olympus Research Corporation.

two years; not one was offered in all three years. In Dallas, on the other hand, which has a Skills Center, four of its 10 offerings were three-year repeats, and three were two-year repeats.

In general, the city "change charts" indicate a great deal of activity by local MDTA planners in attempting to broaden the range of occupational offerings. Their efforts have been hindered by the paucity of occupational information available and by the pressure exerted from their supervisors to obtain high completion and placement rates as justification for the continuance of programs.

NATIONAL SHORTAGES

In its RFP, DOL requested the evaluators to assess the effectiveness of MDTA in training for four clusters of occupations which are considered "national shortages": medical, environmental, and law enforcement occupations and construction trades. ORC's findings regarding these occupations are discussed below.

Medical Occupations

Nearly 10 percent of all MDTA slots are in the medical or health occupations cluster. Moreover, the range of occupations within the cluster is relatively wide: LPN, nurse's aide, medical secretary, orderly, ward clerk, surgical technician, medical technician, medical lab assistant, inhalation therapist, occupational therapist, and nurse refresher courses. The health occupations cluster, excluding LPN and nurse refresher courses, has the highest placement rate of any MDTA program and surprisingly, is serving the most disadvantaged clientele (see Chapter Six). LPN and nurse refresher courses, which serve the least disadvantaged clientele, have the second highest performance rating and the highest rating of three-month and six-month follow-up employment.

Environmental

Four cities, Miami, Anchorage, New Orleans, and St. Louis, have experimented with environmental occupations. Three courses have been offered in Miami: environmental construction engineering aide (32 slots), environmental engineering aide (16 slots), and environmental engineering technician (25 slots). A total of 105 slots in Anchorage and New Orleans has been allocated to wastewater plant operator, and 30 slots in St. Louis have been allocated for environmental technician. The total number of slots allocated throughout the 14 SMSAs in environmental occupations is 208.

Construction Trades

Three cities allocated 90 slots to the construction trades. In nonunion Montgomery, 40 slots were allocated for "housebuilder." Wilmington offered two courses in successive years (total slots, 30) in "carpenter," and New Orleans offered one course (20 slots) in "floor layer."

Law Enforcement

ORC was able to identify only one course in law enforcement: 20 slots for patrolman in Salt Lake City.

Conclusion

In the 14 sample areas, MDTA has been active in health occupations, a field that has proved to be most productive for institutional training. Experimentation with environmental occupations and construction trades has been carried out in a handful of cities; it is too early, however, to assess its effectiveness. Institutional training has yet to make a breakthrough (in the sample areas) in the field of law enforcement.

It should be emphasized that ORC's figures regarding "national shortages" pertain only to the sample areas. On a national basis, far more courses are being offered in LPN (6 percent of all institutional slots in fiscal year 1972) than in the 14 cities included in the sample for this study; and the "protective service" training being offered through Project Transition is significant in the law enforcement area.

TIMELINESS

Most institutional programs are for occupations in which turnover rates are high, or in which there is a relatively continuous and persistent demand. The question of "timeliness," therefore, is academic. There are always openings for clerical workers, welders, workers in the health field, auto mechanics, auto body repairmen, and production machine operators in most areas. ORC uncovered only one situation where the timing of a project turned out to be disastrous. An air conditioning course began late and finished in November, thereby releasing graduates into the marketplace at exactly the time when the demand for air conditioning repairmen declined to zero. This, however, is an isolated instance and is not typical of the overall program.

Most employers have no opinions regarding the timeliness of institutional training. Perhaps the reason is that a legitimate skills shortage exists for only a brief period of time. If an employer loses a highly skilled worker and cannot fill the position through promotion from within, he may look for a replacement on the open market, but if a replacement cannot be found quickly, he will take action to "adjust" in some other way. Such action may take the form of working one or more employees overtime, restructuring the job, or introducing automation. The important point is that once the adjustment has been made, the skills shortage ceases to exist. In a loose labor market (one in which unemployment is relatively high and rising), of course, the position may remain vacant until a highly qualified worker can be found.

It is hard to conceive of the MDTA institutional training program's being able--even if planners had access to a wide range of occupational information (which they do not)--to react in a timely manner to this kind of situation. Skills shortages appear quickly and disappear just as quickly. MDTA, by necessity, must restrict itself to those occupations in which the demand is relatively persistent and continuous.

MAJOR INHIBITORS

There are six major inhibitors of the MDTA program, each of which is discussed separately in this section. They are: (1) the lack of a system for collecting, synthesizing, and storing occupational information at the local level; (2) the scarcity of funds; (3) the short periods of time for training, coupled with emphasis on serving the disadvantaged; (4) the tendency of newly created MDTA institutions to move toward a "stable" situation; (5) union opposition in some occupational areas; and (6) employer hiring practices.

Lack of Occupational Information

By far the most significant of the six inhibitors is the almost total lack of a system to provide planners with synthesized, easy-to-understand demand information at the local level. This factor, more than any other, accounts for the relatively narrow range of occupational offerings in the institutional manpower training program. ORC's analysis of the IOI forms is, under the circumstances, an imperfect analysis of imperfect information. It is merely an examination of a few highly unreliable indicators of demand occupations--ES hard-to-fill order lists and want ads. It may help to identify some of the inhibitors of MDTA institutional training, and it may show how well MDTA planners are performing, utilizing what little information is available, but it does not provide a true picture of demand in the 14 areas--or if it does, it does so only accidentally.

Local planners are well aware of this lack and attempt to compensate through trial and error. The city "change charts" contained in the Appendix provide an indication of how hard they try. If, however, it is a major objective of MDTA to help meet employers' needs, a better system must be devised to identify those needs.

Scarcity of Funds

MDTA allocations are inadequate to meet the needs for training in any given city or area. The question, therefore, is not one of broadening an existing program but of selecting which occupations are the most suitable for a limited program. There is a natural reluctance to drop existing courses because to do so necessitates the purchase of new equipment and curricula materials, thus decreasing the portion of funds available for actual training. This is particularly true for courses such as welding, metal machining, and others which require large capital outlays for equipment. If, for example, the choice is between an existing machine trades course and a new air conditioning mechanic course, the performance record of the former would have to be very poor before planners would consider the switch. Air conditioning equipment is expensive, as is the storing of machine trades equipment. Furthermore, a new offering is almost always accompanied by anxiety as to whether the course itself and the placement rate will meet existing norms. The tendency, therefore, is to remain with the familiar.

Length of Training

MDTA's policy to concentrate on the disadvantaged and limit training for most enrollees to six months' duration limits the occupational range of the institutional program. ORC's IOI analysis indicates that the "world" of MDTA institutional training is reduced by about 14 percent because of these factors. If more complete occupational information were available, especially regarding the larger market outside ES activities, the reduction might be even greater. These policies are understandable--even commendable--but they do reduce the occupational range of MDTA institutional training.

The Need for Stability

Newly created MDTA institutions, such as Skills Centers and large multi-occupational projects, are not exempt from the institutional tendency to strive toward "stability." Nothing is more disconcerting to a vocational education institution than the constant installing and storing of equipment and the equally constant hiring and firing of personnel. If a Skills Center's offerings were to change every year, it would be in a perpetual state of turmoil. Skills Centers have no objections to broadening their occupational offerings (provided that adequate funds are available), but understandably, they indeed tend to resist changes in existing occupational offerings.

Union Opposition

Union opposition, or what MDTA planners assume to be union opposition, occurs mainly in the construction and printing trades. A few breakthroughs have been made in these areas, but for the most part both are considered "untouchable" by MDTA planners at the local and state levels. Union opposition is most significant in ORC's analysis of occupations which appear to be in demand in seven or more cities, where it accounts for a 12 percent reduction in the MDTA "world." It is surprising that even in areas where unions are weak (e.g., "right-to-work" states), there is little MDTA activity in apprentice occupations. Most local planners believe that there is an MDTA regulation forbidding training in apprenticeable trades.

Employer Hiring Practices

It is impossible to document the extent to which employer hiring practices limit the occupational range of MDTA training. It is obvious that civil service regulations constitute a formidable barrier in the public sector, but in the private sector, there are few formal, or written, screening mechanisms which work against MDTA enrollees. Based on interviews with local ES personnel, employers, union officials, and others, however, ORC believes that employer hiring practices have a limiting effect on MDTA in some areas. In one city, both employers and local ES personnel stated with candor that employers would not employ blacks in clerical jobs. In another city, a union official said that blacks "don't want to work beside whites on construction jobs; they prefer to be with their own kind." At least four comments were heard to the effect that employers do not want to send blacks into white homes to repair appliances (such comments were heard in northern as well as southern cities).

ORC believes that the lack of a high school education, especially in a loose labor market, screens out many MDTA enrollees in some occupations.

Chapter Six

The Record

This chapter examines the characteristics of enrollees and performance records of individual projects by city and by occupational cluster to determine the extent to which MDTA institutional training is serving the disadvantaged and the occupations in which the nondisadvantaged are being trained, and to determine whether performance records provide clues to which institutional offerings are in legitimate demand occupations. ORC's information on enrollee characteristics was obtained from tapes provided by the Manpower Administration's Office of Manpower Management Data Systems. The material was programmed by ORC to fit the purposes of this report. Performance information was collected by ORC researchers in the field; it includes data from class-size projects only, not individual referrals.

ENROLLEE CHARACTERISTICS

Federal guidelines require that 65 percent of MDTA's enrollment be "disadvantaged," as defined by the Manpower Administration: " . . . a poor person who does not have suitable employment and who is either 1) a school dropout, 2) a member of a minority, 3) under 22 years of age, 4) 45 years of age or older, or 5) handicapped."[1]

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[1] Manpower Administration, U.S. Department of Labor, Definition of Term "Disadvantaged Individual," Order No. 1-69 (January 16, 1969).

The source for enrollee characteristics is Form MA-101 on which ES interviewers record pertinent information about manpower program applicants, including judgments as to whether they are disadvantaged or nondisadvantaged. Table 6-1 gives ES recordings of the percentages of disadvantaged enrolled in institutional programs by city.

TABLE 6-1

Ranking of Cities by Proportion of Disadvantaged Enrollees[a]

City	Rank	Percentage "Disadvantaged" (MA-101)
Dallas	1	87.8%[b]
Fresno	2	84.5
Rochester	3	76.7
Montgomery	4	74.8[b]
New Haven	5	72.1
St. Louis	6	70.1
Milwaukee	7	66.8[b]
Duluth	8	64.9
Salt Lake City	9	63.9
New Orleans	10	58.8[b]
Anchorage	11	57.9
Wilmington	12	55.3[b]
Paterson	13	45.2
Miami	14	36.7[b]
All cities		62.4%[b]

[a] Data collected by Olympus Research Corporation.
[b] Percentage "unknown" exceeds 5% of available records.

It appears that six of the 14 cities fall below the 65 percent criteria. The range is from a low of 36.7 percent in Miami to a high of 87.8 percent in Dallas. The percentage for all 14 cities is 62.4. However, Table 6-2 suggests some difficulty in accepting at face value ES disadvantaged/nondisadvantaged ratings. A below-poverty income is a necessary criterion for classification as disadvantaged. Yet, according to the table, only 59.8 percent of all enrollees in the 14 cities fall below the poverty income criterion. The range is from 36.4 percent in Paterson to 88 percent in Dallas.

For example, according to the ES, 72.1 percent of New Haven's enrollment are disadvantaged; yet only 43 percent are classified "below poverty level. ' For Fresno, the ES figure is 84.5 percent; the below-poverty level classification, 68.8 percent. On the other hand, the ES classifies only 63.9 percent of Salt Lake City's enrollment as disadvantaged, but 70.1 percent are below the poverty income level. Correlations exist for only a few cities: Dallas and Montgomery (in the disadvantaged classification) and Miami, Paterson, and Anchorage (in the nondisadvantaged classification).

Because of these discrepancies, ORC devised a method for measuring the relative degree of disadvantaged being served by each of the 14 cities. Each city is ranked according to the percentage of enrollees who qualify as disadvantaged under the criteria in Table 6-3. The sum of these rankings is the city's score. The city with the lowest score has the highest overall percentage of disadvantaged in each category and would be serving the most disadvantaged clientele. The results of this exercise are shown in Table 6-4.

TABLE 6-2

Ranking of Cities by Proportion of Enrollees below Poverty-Level Income[a]

City	Percentage below Poverty Level	Rank below Poverty Level	Rank Disadvantaged[b]
Dallas	88.0%[c]	1	1
Montgomery	77.2[c]	2	4
Duluth	70.7	3	8
Salt Lake City	70.1	4	9
St. Louis	69.7	5	6
Fresno	68.8	6	2
Milwaukee	63.8[c]	7	7
Rochester	59.9[c]	8	3
New Orleans	54.8[c]	9	10
Wilmington	54.5[c]	10	12
Anchorage	49.6	11	11
New Haven	43.0	12	5
Miami	37.5[c]	13	14
Paterson	36.4	14	13
All cities	59.8%[c]		

[a] Data collected by Olympus Research Corporation.
[b] Ranking from Table 6-1
[c] Percentage "unknown" exceeds 5% of available records.

The five cities with the lowest scores are: Milwaukee, Montgomery, Wilmington, St. Louis, and Dallas. The first three cities have a score of 33; the latter two, 34 and 35. The five cities with the highest scores are Paterson, Anchorage, New Orleans, Miami, Fresno, and New Haven.

TABLE 6-3

Enrollee Characteristics
(By city)[a]

City	Below Poverty Level		Public Assistance Recipient		Unemployed[b]		Unemployed 10+ Weeks or More		Minority		Education under 12 Years	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Fourteen-city total	3,162	59.8%[c]	943	15.8%	4,832	98.1%	2,435	56.2%	3,395	59.0%	3,371	56.4%
Anchorage	59	49.6	6	4.9	107	87.8	33	47.5	1	100.0[c]	44	36.0
Dallas	154	88.0[c]	26	9.4	274	98.2	103	47.5	234	87.3	160	57.6
Duluth	157	70.7	47	20.5	229	100.0	79	51.6	14	6.2	95	41.5
Fresno	106	68.8	44	28.2	143	92.3	62	52.1	47	31.1	78	50.0
Miami	285	37.5[c]	70	8.6	803	99.5	124	42.2	629	79.4	440	54.5
Milwaukee	913	63.8[c]	298	17.9	1,642	99.0	790	62.5	953	57.6	1,012	60.7
Montgomery	125	77.2[c]	13	5.2	249	100.0	85	38.3	193	77.8	155	62.3
New Haven	58	43.0	19	13.9	137	100.0	29	29.9	93	68.4	72	52.5
New Orleans	85	54.8[c]	21	8.3	382	94.8	128	61.0	198	78.9	96	51.5
Paterson	71	36.4	15	7.5	191	96.5	758	51.9	121	61.1	91	46.2
Rochester	166	59.9[c]	83	27.9	286	97.6	118	61.5	130	43.8	105	48.6
St. Louis	396	69.7	57	10.0	550	96.7	341	67.5	421	78.1[c]	338	59.3
Salt Lake City	350	70.1	98	19.4	497	98.6	236	58.3	32	6.4	288	57.4
Wilmington	237	54.5%[c]	146	29.3%	488	98.2%	224	55.4%	329	66.7%	254	64.7%

[a] Data collected by Olympus Research Corporation.

[b] Includes those classified as underemployed, unemployed, seasonal farm workers, and not in the labor force.

[c] Percentage "unknown" exceeds 5 percent of available records.

TABLE 6-4

Degree of Disadvantaged Scores
(By city)[a]

City	Disadvantaged Score[b]	Rank	"Disadvantaged" (MA-101) Rank[c]
Milwaukee	33	1	7
Montgomery	33	1	4
Wilmington	33	1	12
St. Louis	34	4	6
Dallas	35	5	1
Salt Lake City	39	6	9
Duluth	44	7	8
Rochester	45	8	3
New Haven	49	9	5
Fresno	50	10	2
Miami	50	10	14
New Orleans	50	10	10
Anchorage	64	13	11
Paterson	66	14	13

[a] Data collected by Olympus Research Corporation.

[b] The city's disadvantaged score is determined by the sum of the rankings for each of the characteristics in Table 6-3. The lower the score the greater the degree of disadvantaged.

[c] Ranking from Table 6-1

There are some cases of a high proportion of unreported characteristics. While a relatively small percentage of these "unknown" responses would not be expected to influence the outcome of the rankings and proportions in Tables 6-1 through 6-6, a large rate of unreported characteristics could significantly alter the data. Whenever the percent "unknown" has exceeded 5 percent of the total available records for a city or occupational cluster, that item has been footnoted. (In the Appendix, Tables A-VI-1 and A-VI-2 are a complete listing of the percentages unknown for all the characteristics found in Tables 6-1 through 6-6.)

The characteristics "below poverty" and "disadvantaged" have the highest incidence of unreported responses. Because of this, the possibility of bias in the results cannot be overlooked. For example, a city that has a large percentage of "unknowns" and a large percentage of "yes" responses for the characteristic "disadvantaged" may be leaving blank the "no" check-box on the MA-101. As a result, that city or occupational cluster will appear as more disadvantaged than it actually is. Unfortunately, ORC cannot determine whether or not the data contain such a bias. Therefore, the data have been used "as is," and the reader is cautioned by the footnotes indicating unknown responses in excess of the arbitrarily chosen 5 percent limit.

It would seem that in a city where the majority of the enrollees are nondisadvantaged, the institutional offerings would be different from those enrolling a majority of disadvantaged. The "nondisadvantaged" cities might be gearing their programs more toward "skills shortages." ORC, therefore, compared offerings in the three least disadvantaged cities (Miami, Paterson, and Anchorage) with those in the three most disadvantaged cities (Milwaukee, Montgomery, and Wilmington). The objective was to determine whether the nondisadvantaged cities offer more courses in occupations of substantial skill content (other than traditional MDTA courses) than the disadvantaged cities. The findings are as follows:

(1) Miami: In addition to traditional MDTA offerings and other semiskilled course offerings, Miami offered the following:

   (a) Construction engineer aide
   (b) Mechanical draftsman
   (c) Environmental engineer aide
   (d) Environmental engineer technician
   (e) Woodworking machine operator
   (f) Nurse, general duty (refresher course)
   (g) Auto air conditioning mechanic
   (h) Marine engine repair

(2) Anchorage: Nearly all of Anchorage's offerings were unique. They included:

   (a) Diesel electrician
   (b) Instrument man
   (c) Water/sewage plant operator
   (d) Fish cleaner/freezerman

(3) Paterson: Paterson offered three (of nine) unique courses:

   (a) Mechanical draftsman
   (b) Air conditioning/refrigeration mechanic
   (c) Transferer II (a printing occupation)

Most of the occupational offerings in the disadvantaged cities are in the traditional clusters. There are, however, several unique occupational offerings in each of these cities, including the following:

- (1) Milwaukee:
  - (a) Medical lab assistant
  - (b) Auto emission control
- (2) Montgomery:
  - (a) Radio-TV repair
  - (b) Electrical appliance repair
  - (c) Nurse, general duty (refresher course)
- (3) Wilmington:
  - (a) Carpenter
  - (b) Nurse, general duty (refresher course)

It appears, therefore, that the number of unique occupational offerings is greater in cities serving primarily a nondisadvantaged clientele, although the disadvantaged cities do not restrict themselves solely to the traditional offerings.

To gain a better insight into the distribution of disadvantaged and nondisadvantaged by occupational offerings, ORC performed an analysis of enrollee characteristics by occupational cluster (Table 6-5).

The same method was applied to nine occupational clusters as was used to determine the city-by-city degree of disadvantaged. Each offering was given a rank (from 1 to 9) for the percentage of its enrollment which qualified under the criteria (except for "disadvantaged") listed in Table 6-5. The sum of these rankings is equal to the occupational offering's score. The offering with the lowest score serves the highest degree of disadvantaged. The results are shown in Table 6-6.

TABLE 6-5

Enrollee Characteristics (By occupational offerings)[a]

Occupational Area	Disadvantaged		Below Poverty Level		Public Assistance Recipient		Unemployed or Underemployed		Unemployed 10+ Weeks or More		Minority		Education under 12 Years	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
All cities	3,366	62.4%[b]	3,162	59.8%[b]	943	15.8%	5,832	98.2%	2,435	56.2%	6,592	58.9	3,371	56.4%
Clerical and sales	993	62.6[b]	960	61.1[b]	330	18.8	1,727	98.9	718	64.1	1,088	62.6	730	41.6
Automotive	552	58.5	532	56.4	138	14.1	961	97.8	363	51.0	419	43.2	691	70.7
Welding	388	57.7[b]	360	53.8	76	9.4	801	99.6	307	47.7	446	55.9	587	72.6
Production machine	438	65.0[b]	399	59.7[b]	109	14.9	726	99.2	293	48.6	422	60.1	488	66.7
National shortage	39	35.8	39	36.1	9	8.3	81	74.3	33	54.1	53	48.6	44	40.4
Nonauto repair	51	57.3	35	63.6[b]	0	.0	90	100.0	24	29.6	75	83.3	49	54.4
Health occupations (excluding LPN/RN)	189	66.1[b]	182	63.9[b]	93	27.7	330	98.2	162	70.4	223	67.2	152	45.2
LPN/RN	114	65.1[b]	99	55.9[b]	45	23.3	183	96.8	92	75.4	54	28.4	58	30.1
Other	602	70.4%[b]	556	68.6%[b]	143	14.9%	933	97.6%	440	58.2%	615	74.0%[b]	572	59.6

[a] Data collected by Olympus Research Corporation.

[b] Percentage "unknown" exceeds 5% of available records.

TABLE 6-6

Degree of Disadvantaged by
Occupational Cluster[a]

Cluster	Disadvantaged Score[b]	Rank
Health (excluding LPN/RN)	19	1
Other	22	2
Clerical and sales	25	3
Production machine	27	4
Nonauto repair	28	5
Welding	32	6
Automotive	34	7
LPN/RN	36	8
National shortages	46	9

[a] Data collected by Olympus Research Corporation.

[b] The cluster's disadvantaged score is determined by the sum of the rankings for each of the characteristics (except disadvantaged) in Table 6-5. The lower the score, the greater the degree of disadvantaged.

One occupational cluster stands out as being reserved strictly for the nondisadvantaged: national shortage occupations. These include environmental, law enforcement, and construction occupations. Three others enroll a high degree of nondisadvantaged: LPN/RN, automotive, and welding.

The cluster enrolling the highest degree of disadvantaged is health occupations (excluding LPN and RN). The "other" category (which includes 32 occupations accounting for 16 percent of all MDTA institutional slots in the 14 areas)--clerical and sales, production machine, and nonauto repair--also enrolls a high degree of disadvantaged.

Generally speaking, however, the disadvantaged and nondisadvantaged are fairly evenly distributed in all occupational groups, with only three exceptions: health occupations (excluding LPN and RN), national shortage occupations, and LPN/RN. The first of these mainly enroll disadvantaged persons; the others, the nondisadvantaged.

It is interesting to compare the enrollee characteristics of the two health groups. Only 28.4 percent of LPN/RN enrollees are minorities, as compared to 67.2 percent of those in other health occupations. Only 30.1 percent of the LPN/RNs are high school dropouts; the figure for other health occupations is more than 45 percent. Since the "other" health group has the highest performance rate of all clusters, this seems to be an area where MDTA is both training in demand occupations and serving the disadvantaged.

PERFORMANCE INFORMATION

Table 6-7 shows all available performance information for the 14 cities, including completion, placement, and follow-up rates. The table's last column gives the degree of disadvantaged rating by city.

The overall completion and placement rates for all 14 cities are 64 and 56 percent, respectively. The 56 percent placement rate is well below DOL guidelines for the refunding of projects.

Half the cities achieve dropout rates of 35 percent or below (dropout rate equals 100 percent minus the completion rate), but only one city, Anchorage, meets the 75 percent placement rate guideline. Paterson, with a placement rate of

TABLE 6-7

Performance Rates and Degree of Disadvantaged
(By city)[a]

City	Completion Rate	Rank	Placement Rate	Rank	Three Month Follow-up Rate	Rank	Six Month Follow-up Rate	Rank	Degree of Disadvantaged Rank[b]
Fourteen-city total	64%	-	56%	-	62%	-	61%	-	-
Anchorage	79	1	83	1	66	5	62	9	13
Dallas	56	13	NA	-	63	10	67	6	5
Duluth	65	8	NA	-	67	4	74	2	7
Fresno	79	1	NA	-	65	6	75	1	10
Miami	57	12	47	6	63	10	62	9	10
Milwaukee	62	10	63	4	64	9	64	7	1
Montgomery	67	6	41	10	48	13	50	13	1
New Haven	60	11	17	11	65	6	72	4	9
New Orleans	63	9	42	9	69	3	53	11	10
Paterson	68	5	73	2	71	2	69	5	14
Rochester	69	4	47	6	72	1	73	3	8
St. Louis	67	6	60	5	55	12	51	12	4
Salt Lake City	53	14	43	8	65%	6	64%	7	6
Wilmington	71%	3	65%	3	NA	-	NA	-	1

NA = Not available.
[a] Data collected by Olympus Research Corporation.
[b] Ranking from Table 6-4

73 percent, comes close, but the others range from a low of 41 percent in Montgomery to 65 percent in Wilmington.

With the exception of a few cities, there seems to be very little correlation between performance and the degree of disadvantaged. Both Anchorage and Paterson, which are serving the least disadvantaged clienteles of all the cities, have the highest performance ratings. Miami and New Orleans, on the other hand, score relatively low in performance, even though they are serving a higher degree of nondisadvantaged than most other cities.

An examination of the performance rates of Milwaukee and Montgomery, two of the cities serving the highest degree of disadvantaged, may provide some insights into the relationship between institutional training and the disadvantaged. Milwaukee has one of the lowest completion rates but one of the highest placement rates of the 14 cities. The low completion rate may reflect the degree of disadvantaged being served by the program; the high placement rate may reflect the relatively favorable economic conditions existing in Milwaukee. However, Milwaukee's follow-up rates are also low, which may once again reflect the disadvantaged nature of its clientele.

The Montgomery situation is even more interesting. Montgomery has a relatively high completion rate but the lowest placement and follow-up rates of all 14 cities. From comments of employers, ES officials, and union representatives on site in Montgomery, it appears that the major reason for the low placement and follow-up rates is the reluctance of area employers to hire blacks, and/or the inability of blacks to "sell themselves" to employers not accustomed to "hiring blacks." It should be noted that the unemployment rates of both Milwaukee and Montgomery are among the lowest in the sample.

More important to this study are performance rates by occupational offering. Placement and follow-up rates may provide clues as to which occupations are in demand in local areas. It should be emphasized here, however, that placements are not necessarily a measure of whether employers' needs in skills shortages are being met. The fact that a person is hired does not mean that he possesses all the skills required by his employer; he may be hired despite his lack of skills or for an entry job that may not even require the skills he learned in the classroom. High placement rates, however, indeed reflect some sort of a demand situation. Yet the converse is not true; i.e., low placement rates do not necessarily reflect a low-demand situation. For example, there may be demand in a community for office machine repairmen, but employer internal training programs and/or private schools may be satisfying that demand. The institution of an MDTA course in office machine repair under such circumstances could prove to be extremely unsuccessful.

Table 6-8 presents completion, placement, and follow-up rates by occupational cluster. The last two columns in the table show the "degree of disadvantaged rating" and the "performance score" for each occupation. The performance score is calculated by giving each occupation a rating (1 to 9) for each performance category (completion, placement, three-month follow-up, and six-month follow-up). The sum of these ratings is the occupation's score. The occupation with the lowest score would rate highest in performance (see Table 6-9).

TABLE 6-8

Performance Rates and Degree of Disadvantaged (By occupational area)[a]

Occupational Area	Completion Rate	Rank	Percent of Completions Placed	Rank	Three-Month Follow-up Rate	Rank	Six-Month Follow-up Rate	Rank	Degree of Disadvantaged Rate	Rank	Performance Score[b]	Rank
All occupational areas	64%	-	56%	-	62%	-	61%	-	-	-	-	-
Clerical and sales	68	3	68	4	63	4	63	5	25%	3	16%	3
Automotive	51	9	66	5	61	5	65	4	34	7	23	6
Welding	60	5	70	3	59	6	60	6	32	6	20	5
Production machine	57	8	64	6	66	3	68	2	27	4	19	4
National shortage occupations	58	7	73	2	50	8	20	9	46	9	26	8
Nonauto repair	60	5	25	9	22	9	27	8	28	5	31	9
Health occupations (excluding LPN/RN)	74	2	78	1	69	1	67	3	19	1	7	1
LPN/RN	80	1	35	8	69	1	69	1	36	8	11	2
Other	64%	4	56%	7	54%	7	54%	7	22%	2	25%	7

[a] Data collected by Olympus Research Corporation.

[b] The performance score is obtained by adding the rankings for each of the performance categories. The "occupational area" with the lowest total would have the highest performance rating.

TABLE 6-9

Performance Rates by Occupational Cluster[a]

Occupational Area	Performance Score	Rank
Health occupations (excluding LPN/RN)	7	1
LPN/RN	11	2
Clerical and sales	16	3
Production machine	19	4
Welding	20	5
Automotive	23	6
Other	25	7
National shortages	26	8
Nonauto repair	31	9

[a] Data collected by Olympus Research Corporation.

[b] The performance score is obtained by adding the rankings for each of the performance categories. The "occupational area" with the lowest total would have the highest performance rating.

Table 6-8 reveals the following:

- The female-dominated occupations (clerical and sales, health occupations, and LPN/RN) are the top three in performance. With the exception of LPN/RN, they are also serving the most disadvantaged trainees.
- Of the male-dominated occupations, production machine, welding, and automotive score the highest, in that order. "Other," national shortages, and nonauto repair score lowest in performance. "Other" is the second most disadvantaged cluster, nonauto repair is fifth, and national shortages is serving the least disadvantaged clientele.

Two clusters show extremely interesting trends. The LPN/RN group has the highest completion rate but the lowest placement rate of all occupational groups.

The rate of those placed in training-related jobs, however, is high--70 percent. Three months after training, the employment of enrollees is very much improved (69 percent employed), but the training-related figure decreases to 42 percent. Six months after training, the employment rate remains the same, but the training-related rate climbs to 87 percent.

National skills shortage occupations in the 14 area sample, on the other hand, have a moderate completion rate (58 percent), but their placement rate is high (73 percent), all training related. Three months later, however, only 50 percent of those contacted remain employed (all training related), and six months after training the employment rate drops to 20 percent--none training related. It could be that for the survey cities, national skills shortage occupations are not skills shortages at all, or if they are, they last only as long as public funding (in the environmental group at least) allows them to last.

Nonauto repair includes the following occupations: electrical appliance repair, household appliance repair, office machine servicemen, radio and TV repair, and vending machine repair. The fact that nonauto repair has a low performance score does not mean that these are low-demand occupations. It could mean that MDTA faces stiff competition from manufacturers and/or distributors who train their own repairmen to service company or dealer "service contracts." It could also mean that the length of training in these occupations is too short or that the quality of the equipment available to MDTA instructors is deficient.

The number of trainees who stay employed in training-related jobs may be the best indicator of whether MDTA is training in demand occupations. Tables 6-10 and 6-11 show training-related percentages by occupational group.

TABLE 6-10

Enrollment, Completion Rates, 30-Day Placement
Rates for Fiscal Year 1969, 1970 Projects
(By occupational group)[a]

Occupational Group	Number Enrolled	Percentage Completed	Percentage of Completions Placed	Percentage Placed in Training Related
Fourteen-city total	6,125	64%	56%	62%
Clerical and sales	1,693	68	68	62
Automotive	823	51	66	93
Welding	794	60	70	88
Production machine	666	57	64	94
DOL occupations	95	58	73	100
Nonauto repair	106	60	25	100
Health--excluding LPN/RN	472	74	78	79
LPN/RN only	297	80	35	79
Other	1,257	64%	56%	84%

[a] Data collected by Olympus Research Corporation.

TABLE 6-11

Three- and Six-Month Follow-Up for Fiscal
Years 1969, 1970 Projects
(By occupational group)[a]

	Three-Month Follow-Up			Six-Month Follow-Up		
Occupational Group	Percentage Researched Contacted	Percentage Contacted Employed	Percentage Employed Tr. Related	Percentage Researched Contacted	Percentage Contacted Employed	Percentage Employed Tr. Related
Fourteen-city total	70%	62%	65%	63%	61%	83%
Clerical and sales	76	63	72	66	63	80
Automotive	61	61	52	49	65	85
Welding	74	59	50	64	60	68
Production machine	70	66	33	48	68	78
DOL occupations	40	50	100	63	20	0
Nonauto repair	59	22	0	48	27	0
Health--excluding LPN/RN	78	69	91	67	67	89
LPN/RN	67	69	42	72	69	87
Other	68%	54%	42%	69%	54%	66%

[a] Data collected by Olympus Research Corporation.

of this increased income are listed as increased labor force participation, improved employment stability, and higher wages. The relative contribution of each to the total income gain is shown as follows:

Factors	Amount Gained
Total annual income gain	$1,876
Increased labor force participation	$1,035
Improved employment stability	$ 491
Higher hourly wages	$ 350

SUMMARY

Two important observations emerge from this analysis: (1) MDTA planners remain with the traditional occupations because it is in these areas that they have their greatest success, and (2) there is no policy (official or unofficial) of allocating some MDTA funds for the disadvantaged and some for the purpose of filling skills shortage occupations.

More than 72 percent of all MDTA institutional slots in the 14 cities are in the following occupations: clerical, automotive, medical occupations, welding, and the metal machine trades. These are the areas where MDTA institutional training has been most successful.

Many other courses have been tried, and are still being tried (nonauto repair, for example), but they have been dropped because of poor performance. No doubt there are many reasons why MDTA has failed in the nontraditional occupations, but ORC believes that one of the primary reasons is that those who are charged with operating the system--both ES and the schools--are not well enough acquainted with the myriad factors which determine who gets employed in these

Generally speaking, MDTA has been quite successful in placing its enrollees in training-related positions. Only two occupational groups fare badly in this regard--national shortages and nonauto repair. It is interesting to note that both these groups have the most success initially in placing completers in training-related positions. National shortage occupations placed 73 percent of their completers, all in training-related positions. As noted above, however, at the end of six months the employment rate dropped to 20 percent--none training related.

Nonauto repair placed only 25 percent of its completers, but all were in training-related jobs. Three months after training, 22 percent of those contacted were still working, but none were in training-related positions.

ORC's follow-up evaluation assumes that those contacted are representative of the total group of completers. This may not be true. People who can be contacted after six months may more likely be those who have found employment and/or remained settled. Those who cannot be reached probably remained unemployed or, for some reason, lost their jobs and had moved. The point is that the true percentage of completers who remain employed in training-related jobs is probably somewhat less than the six-month percentages presented in this report.

Aside from the question of training-related employment, the effect of MDTA institutional training on yearly salaries and stability of employment is an important indicator of the program's value. Decision Making Information (DMI), in their MDTA "Outcomes Study,"[2] estimates that MDTA enrollees gain, on the average, $1,876 as a result of enrollment in institutional training. The sources

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[2] MDTA "Outcomes Study," Decision Making Information (November 1971), pp. I.9 and I.10.

fields, including the specific kinds of training required for different segments of the occupations.

Although there are some occupational areas which enroll mainly nondisadvantaged trainees--LPN/RN and environmental occupations, for example--the vast majority of institutional trainees are not assigned to occupational clusters according to their disadvantaged or nondisadvantaged status. In other words, MDTA planners at the state and local levels do not interpret the 65 percent disadvantaged guideline to mean that 35 percent of all MDTA slots should be reserved for the nondisadvantaged in different occupational areas ("skills shortage" areas, for example). On the contrary, the disadvantaged and the nondisadvantaged are assigned, with few exceptions, to the same occupational clusters.

Chapter Seven

The Employer Interviews

The contract called for ORC to conduct a minimum of 25 interviews with employers in each of the 14 areas. Actually ORC conducted a total of 355, or slightly more than 25 interviews per area.[1] Although a good deal of the information obtained from employers could be (and is) incorporated into other sections of the report, a separate chapter has been allocated for the employer interviews for the following reasons:

- All or parts of four objectives of the evaluation relate directly to the employer interviews.
- The remainder of the objectives relate indirectly to the interviews.
- Much of the information obtained from employers goes above and beyond the specific objectives of the study.

Some of the information obtained from employers has been used in preceding chapters. For example, employer views about participation in MDTA planning has been incorporated into Chapter Four, employer lists of demand occupations were used in Chapter Five, and employer opinions about the performance of MDTA graduates were referred to in Chapter Six.

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[1] The study was completed as required, but in the movement of documents from ORC's Washington, D.C., office to the Salt Lake City office, the completed forms for St. Louis, Missouri, were lost in the mail. Detailed statistical breakdowns are available, therefore, for only 328 of the interviews. However, a summary of the St. Louis interviews had been prepared before the mail loss, making it possible to use some limited data on St. Louis.

It should be emphasized that ORC's survey took place during a period of "loose" or "loosening" labor markets. The effect of rising unemployment and declining production on employer responses to ORC's questionnaire cannot be underestimated. When labor markets are "tight," employers are more apt to be open minded about public manpower training programs or other programs which could conceivably help them satisfy their labor needs. As labor markets loosen, on the other hand, recruitment becomes relatively low on employer priority lists, and attitudes toward public manpower programs harden into traditional "antigovernment" postures.

EMPLOYER INTERVIEW CRITERIA

ORC's criteria for selecting employers to be interviewed were designed to obtain the greatest amount of relevant information from relatively small samples ("small" for any one metropolitan area). The criteria decided upon were the following:

- Concentration on Large Employers: In order to gain the greatest possible penetration into the labor markets, ORC concentrated on large employers in each of the 14 areas. This criterion, however, did not rule out the selection of some small- or medium-sized employers. These employers were interviewed regarding occupations (auto mechanic, for example) which generally occur in smaller sized firms.

- Demand Occupations: Some employers who hire in occupations which appeared on ES demand lists for the fiscal years in question were covered in each area.
- Diversification: Although concentration was necessary in some areas, employers in as many industries as possible were included in the sample for each area.
- Experience with MDTA: An attempt was made to include some employers who have had experience in either planning for MDTA or in hiring MDTA institutional training graduates.
- Internal Training Programs: The samples included some employers who conduct internal programs.
- Public Employers: At least two public employers were included in the sample for each area.

One of the major problems ORC faced in conducting the employer interview phase of the study was in setting up the interviews themselves. The employer interview teams had approximately one week before the on-site visit to obtain a list of employers from which interviewees would be selected and to make appointments. The national office of NAB, the U.S. Chamber of Commerce, and state and local ES offices were of invaluable help to ORC in identifying employers. Without their cooperation, the employer interview phase of this study could not have been completed.

About one-half of the appointments with employers were made before the on-site visits; the remainder were made on the site after consultation among employer interviewers and other members of the ORC teams. Although this system worked reasonably well, time constraints and the relative willingness of various employers to submit to interviews had a limiting effect on the representativeness of the various samples. In effect, the ORC teams had to accept those interviews they could get. Nevertheless, with few notable exceptions, the samples seem to be reasonably representative of the cities visited. Of these employers, 41 percent were in manufacturing; the largest percentages of nonmanufacturing firms were in trade (19) and services (16).

Most of the employers were large (44 percent), although in smaller cities (e.g., Duluth, Fresno, Montgomery, and Salt Lake City), the majority were either medium-sized or small.

Labor force penetration rates ranged from 4 percent in Paterson, New Jersey (most employers interviewed in Paterson were outside the city limits), to 26 percent in Anchorage, Alaska. The penetration rate for all 14 cities was 11 percent.

The portions of the work forces comprised of males (with the single exception of Miami) and minorities appear to be reasonably consistent with the actual percentages of males and minorities in the total labor forces of the areas studied. Tables 7-1 through 7-4 summarize these data.

During the course of the study, every attempt was made to quantify the employer data, but inevitably there are some employer responses and opinions that evade hard analysis. They are nevertheless of overriding importance if a true picture of the employer viewpoint is to be presented. Many of the off-the-cuff comments that provide additional insights into what employers really feel are incorporated into the discussion. Often there are no empirical data to support these statements (and in some cases data provided by employers appear to negate opinions stated by the same employers), but they are included to provide clues concerning the "climate" within which MDTA planners must operate.

TABLE 7-1

Industrial Distribution of Firms Interviewed[a, b]

Industry	Number of Firms	Percent
Agriculture, forestry, fisheries	0	0%
Mining	2	1
Contract construction	11	3
Transportation, communication, utilities	28	9
Manufacturing	134	41
Wholesale and retail trade	63	19
Finance, insurance, real estate	15	5
Services	51	16
Government	24	7
TOTAL	328	101%

[a] Data collected by Olympus Research Corporation.

[b] Does not include St. Louis firms.

TABLE 7-2

Type of Firms Contacted
(By city)[a, b]

City	Total Firms	Public Employers	Union Contact	Government			Firm Size			NA
				Fed.	State	Local	Lge.	Med.	Sm.	
Anchorage	25	10	7	6	-	1	8	12	2	3
Dallas	26	2	7	-	-	-	13	6	3	4
Duluth	25	0	11	-	-	-	6	16	1	2
Fresno	25	3	18	-	-	2	8	10	5	2
Miami	27	5	14	2	-	2	18	8	1	-
Milwaukee	25	1	19	1	-	-	21	2	2	-
Montgomery	25	1	4	1	-	-	2	19	4	-
New Haven	25	2	12	1	1	1	11	11	2	1
New Orleans	24	1	11	1	-	1	13	8	2	1
Paterson	25	2	16	-	-	-	10	9	3	3
Rochester	25	1	13	-	-	1	16	3	6	-
Salt Lake City	25	2	12	1	-	1	7	15	3	-
St. Louis	27	4	22	7	-	2	NA	NA	NA	-
Wilmington	26	3	15	-	-	1	11	6	5	4
Percentages	100%	0.10%	0.51%	0.06%	0.003%	0.03%	0.41%	0.35%	0.11%	0.06%

NA = Not available.

[a] Data collected by Olympus Research Corporation.

[b] Includes St. Louis firms.

[c] Firms with 500 or more employees are categorized as "large" (50 to 499), "medium," and "small" (fewer than 50).

TABLE 7-3

Male and Minority Characteristics of Employer Work Forces Contacted (By city)[a]

City	Number Contacted	Number Male	Number Minority	Percentage Male[b]	Percentage Minority[c]
Anchorage	10,839	6,152	1,465	56.8%	13.5%
Dallas	31,124	4,645	2,291	14.9	7.4
Duluth	8,197	4,471	214	54.5	2.6
Fresno	11,112	6,123	2,535	55.1	22.8
Miami	88,164	20,513	11,519	23.3	13.1
Milwaukee	58,335	30,575	3,734	52.4	6.4
Montgomery	7,629	5,005	1,385	65.6	18.2
New Haven	26,909	5,419	2,881	20.1	10.7
New Orleans	25,214	11,815	4,477	46.9	17.8
Paterson	19,791	6,720	1,633	34.0	8.3
Rochester	101,067	37,856	4,154	37.5	4.1
Salt Lake City	21,819	15,897	1,280	72.9	5.9
St. Louis	112,617	NA	NA	NA	NA
Wilmington	23,001	17,131	4,540	74.5	19.7
TOTAL	545,818	172,322[c]	42,108[c]	39.8%[d]	49.7%[d]

NA = Not available.

[a] Data collected by Olympus Research Corporation.

[b] Calculations are weighted averages of responding firms. Nonrespondents were subtracted from "number contacted" column before determinations were made.

[c] Does not include St. Louis.

[d] Computed on the basis of 433,201 contacted--545,818 minus 112,617 (St. Louis).

TABLE 7-4

Penetration of the Labor Market
(By employer interviews)[a, b]

City	Total Nonagricultural Wage and Salary Workers (thousands)	Workers Hired by Employers Contacted	Percentage
Anchorage	42.0	10,839	0.26%
Dallas	657.9	31,124	0.05
Duluth	55.9	8,197	0.15
Fresno	117.8	11,112	0.09
Miami	504.7	88,164	0.17
Milwaukee	570.3	58,335	0.10
Montgomery	68.9	7,629	0.11
Paterson	507.5	19,791	0.04
Rochester	347.2	101,067	0.29
New Orleans	374.0	25,214	0.07
New Haven	158.8	26,909	0.17
St. Louis	898.8	112,617	0.13
Salt Lake City	192.0	21,819	0.11
Wilmington	190.9	23,001	0.12%
TOTAL	4,686.7	545,818	0.12%

[a] Data collected by Olympus Research Corporation.

[b] Some large employers in several cities refused to give their total employment figures. If they could have been included, the overall penetration rate would be slightly higher.

ORGANIZATION

The material in this chapter is comprised of a number of diverse topics, all of which relate to employer interpretations of MDTA institutional training. Generally, the material is organized as follows: (1) material relating to the specific objectives of the evaluation, and (2) other topics which could have an effect on these objectives and on national policy relating to MDTA institutional training.

The Impact of Skills Shortages on Employers

Lists of employer-cited skills shortages were discussed in Chapter Five. This chapter deals solely with the effect of economic conditions on the existence of so-called skills shortages and how employers compensate for the lack of workers adequately skilled to perform certain jobs.

Chapter Three indicates that the U.S. labor market has loosened up considerably over the last three years. ORC's employer interviews indicate that employers are taking full advantage of this situation. They are not looking for "apprentice diesel mechanics" or "baker helpers"; they want "journeyman diesel mechanics" and "bakers." They want, in effect, an employee that can become instantly productive. There are in reality two problems, both related to current economic conditions. The level of unemployment is sufficiently high to permit increased selectiveness by employers in most occupations; spending by all sectors is down and profit margins have diminished. Therefore, a firm can be selective because of available labor and must be selective to protect declining profit margins. In cases where the most productive employee cannot be found, the output lost may be inconsequential. In fact, employers imply that if workers cannot be found to fill vacan cies, positions are likely to remain open. With depressed sales and adequate inventories, most firms can afford to "coast."

Employers consistently emphasize, however, that if the "right" man walks in, they will find a place for him. In other words, if an applicant can immediately begin carrying his share of the activity, he will be hired. In the current economic situation, employers cannot justify hiring less productive workers.

The data relating to the impact of skills shortage occupations on employers are, in light of the above discussion, relatively scarce. The vast majority of firms interviewed have not experienced shortage problems in the last several years and in fact have been overwhelmed by the constant pressure of new applications and referrals. Seventy-five firms responded to a series of questions relating to the effects of skills shortages on their operations. The distribution of skills shortage effects and methods of compensation are shown in Table 7-5. Several characteristics of these data should be pointed out: First, lack of qualified manpower is most significant in the "services" category. Apparently, both quantity and quality of services are significantly affected by the hiring of underqualified workers.

Second, when and if skills shortages occur, they result in increased costs to the employer. The predominant method of alleviating shortage problems is through working current employees overtime. About 61.8 percent of responding firms and 10.4 percent of all firms took this route. Inefficient use of inputs and increased cost through additional breakage are also considered costly by about one-fourth of the responding firms.

TABLE 7-5

Skills Shortage Effects[a]

Effect	No. of Firms with Positive Response	Percentage of Responding Firms	Percentage of Total Responding Firms	Percentage of Total Firms
Production:	33	100.0%	44.0%	9.3%
Unmanned work station	17	51.5		4.8
Decreased ouput	6	18.2		1.7
Order refusal	4	12.1		1.1
Order backlog	6	18.2		1.7
Employment:	35	100.0	46.6	9.9
Vacant	7	20.0		2.0
Work force shift	10	28.6		2.8
Less qualified workers	18	51.4		5.1
Increased costs:	55	100.0	73.3	15.5
Overtime	34	61.8		9.6
Inferior product	1	1.8		0.3
Charge-backs	4	7.3		1.1
Inefficient use of inputs	7	12.7		2.0
More breakage	7	12.7		2.0
Product rejection	2	3.6		0.6
Services:	58	100.0	77.3	16.3
Reduced quality	30	51.7		8.5
Reduced quantity	23	39.7		6.5
Delayed service	5	8.6		1.4
Technological change:	19	100.0	25.3	5.4
Automation	10	52.6		2.8
Change processes	4	21.1		1.1
Other	5	26.3		1.4
Other	18	100.0%	24.0%	5.1%

[a] Data collected by Olympus Research Corporation.

Third, technological change does not appear to be as significant a factor as would be expected. In fact, only 25.3 percent of responding firms use this method of compensation. Of the firms using technological change, more than one-half utilized increased automation.

Fourth, the impact of skills shortages on production is less than would be expected. Less than one-half the responding firms felt this to be a significant problem. In fact, only 18.1 percent of responding firms felt output had been decreased. The largest impact of skills shortage problems results in unmanned work stations, which is consistent with employers' hiring activities in a slack economy. In addition, it could be expected that "order refusal" and "order backlog" would be relatively minor, and the data reflect this expectation.

When explicitly asked how they compensated for skills shortages, 40 employers responded with the data shown in Table 7-6.

TABLE 7-6

Employer Compensation for Skills Shortage Deficiency[a]

Change	"Yes"	"No"	Total Responses	Percentage "Yes"
Restructure job	15	23	38	39.5%
Revise work flow	13	24	37	35.1
Instigate training	8	28	36	22.2
Change level of output	11	23	34	32.4%

[a] Data collected by Olympus Research Corporation.

Employer Participation in MDTA Planning

The ORC employer interview sample is heavily weighted in favor of employers who have participated in MDTA planning. Employers were selected from lists supplied by ES agencies and NAB-JOBS offical s. It would seem, therefore, that employers selected from such lists would have had far more experience with manpower programs than employers selected at random.

The data relating to this question are displayed in Table 7-7. Employers were asked if they had participated in the following:

- MDTA advisory committees
- CAMPS committees
- Skills centers
- Other advisory committees
- Technical committees
- Other manpower programs
- Forming the basis for MDTA courses
- Course determination (course outlines)
- Additional courses needed
- Courses that should not be given

Responses ranged from 2.4 percent (Skills Centers) to 7.8 percent (technical committees). About 14.6 percent indicated that they were affiliated with a manpower training program other than MDTA institutional training (frequently NAB-JOBS, a vocational high school, or a private institution) but had no contact with institutional MDTA. Less than 7 percent of the total responses indicated a

TABLE 7-7

Distribution of Responses Relating to Employer Participation in MDTA[a]

Category	"Yes"	Percentage of Responding Employers	Total Responding Employers	Responding Employers as a Percentage of Interviewed Employers[b]
Participation:				
CAMPS	19	7.7%	248	76.3%
MDTA advisory committee	12	4.8	249	76.6
Skills Centers	6	2.4	247	76.0
Advisory committee	15	6.0	249	76.6
Technical committee	18	7.3	248	76.3
Other	31	12.8	243	74.8
Knowledge of:				
Basis of MDTA courses	37	16.4	226	69.5
Process by which courses are determined	46	21.7	212	65.2
Suggestions:				
Additional courses Needed	64	35.8	179	55.1
Courses that should not be given	14	8.2%	171	52.6%

[a] Data collected by Olympus Research Corporation.

[b] Based on the 13-city data. with 325 firms interviewed.

direct relationship with a manpower training program in an advisory or administrative capacity.

Approximately 20 percent of responding employers had some notion of how MDTA courses were initiated. A slightly higher percentage participated in the determination of a manpower program, most frequently NAB-JOBS or community schools. More than one-third thought additional courses were needed, and virtually all listed their particular demand occupations in addition to basic education and/or skill upgrading. Less than 10 percent thought that courses should be eliminated; these were generally employers who wanted all courses eliminated. In isolated cases, usually after being told what courses were offered, some employers recommended the elimination of specific courses. Without exception, however, these were off-the-cuff, intuitive feelings rather than judgments based on careful examination.

ORC also attempted to determine the extent to which individual employers could contribute to the planning process. Employers were asked about their use of manpower projections and awareness of external labor market problems.

Manpower Projections

The use of manpower forecasts is not widespread by employers included in the ORC sample. A total of 216 firms (66 percent) responded to the question. Of these, 71 indicated that manpower forecasts or projections were used, while 145 (45 percent) said they were not used. It seems reasonable to assume that of the 34 percent that declined to comment, virtually all did not use forecasts or projections. In other words, only 22 percent of the firms (the vast majority of which were "large" firms) use manpower projections. ORC interviewers attempted to ascertain how these forecasts were generated, but the firms were somewhat vague as to how they are made, how they are used, and how successfully they work. The typical response was, "We try to anticipate our sales volume or expected contracts and, from prior knowledge that 'x' number of people are required to perform the work, we increase or decrease our work force." No firms contacted were able to outline in explicit terms how the process worked, and none could (or would) provide a written methodology for the process.

Of the 71 firms that replied that they do use forecasts, 58 (82 percent) were large firms, and 13 (18 percent) were medium-sized firms. No small firms responded in the affirmative.

External Labor Markets

Employers included in the sample are not well informed about the recruitment problems of firms in their labor markets. Of 328 firms, 167 responded to the question; 60 firms (18 percent of the total) were able to say that other firms were or were not having skills shortage problems in the same or other occupations. Also, 107 firms did not know what problems other firms were having, and the remaining 48 percent declined comment. In other words, less than 20 percent of the firms in this study were in close enough contact with other firms to know positively what manpower problems the others experience. Since the predominance of firms was medium or large, it seems reasonable to assume that the knowledge of all firms about manpower problems would not be significant. If large employers are not aware of skills shortage problems, it seems even less likely that smaller firms would be knowledgeable in this area.

Everyone seems to agree that the employers should participate in the planning process for all manpower programs, but if individual employers do not use forecasts and do not have much knowledge of employer manpower requirements other than their own, the question as to how they should be used is very pertinent indeed. Certainly, the addition of two or three employers to an advisory committee is not going to be of much help to planners in identifying training occupations, other than those that the employers know about in their own firms. Thus, employer participation in planning for MDTA institutional training (or other manpower programs) must be given more thought by national administrators than it has been given in the past.

With this relatively limited exposure to MDTA training, it would be expected that employers have few insights, ideas, or criticisms of institutional programs. However, quite the opposite is true. Most employers have definite ideas on what is or what ought to be, and few are reluctant to express them regardless of their firsthand experience with MDTA training.

EMPLOYER REACTION TO MDTA INSTITUTIONAL TRAINING

Employers are pragmatic men and women with their own sets of values, biases, and prejudices. They see and hear what they want to see and hear. Much of what they see and hear about public training programs is less than agreeable to them. They observe what appears to be inefficiency and waste in these programs and have an innate distaste for them.

A Salt Lake City public utility official noted that there is poor coordination between most manpower programs and that there are "too many competing agencies shuffling people around." The same observation was made by the personnel director of an aerospace components manufacturer. He had served on the state CAMPS committee and became very frustrated at the infighting between programs ("More effort was spent trying to impress everyone else about what your program had done or would do than was spent developing a more effective framework of training activity"). Lack of coordination was also the complaint of a Wilmington hospital administrator who noted, "It's not unusual to see the same applicant come back under a new program."

Even more important to some employers is the manner in which manpower programs are developed. While slightly more than one in ten of all employers contacted understood this process, many nevertheless had strong views on the subject. A Rochester publisher believes that a basic weakness of current manpower programs is that ". . . the training is cranked up outside the plant by 'manpower people' or committees. Rather, it should be done in connection with foremen or first-line supervisors who have the ultimate responsibility for hiring and getting the job done." Another Rochester manufacturer said that institutional MDTA training is valuable to his firm, but only because " . . . a former plant supervisor is now teaching the course at the Skills Center."

This type of acceptance is the exception, not the rule. Some employers do not believe an effective institutional training program can be developed. When asked what courses should be offered, a Rochester manufacturer replied that the question is "academic." He didn't believe MDTA offerings are responsive to his or the community's needs or that there is much possibility for significant change.

Employer Appraisal of MDTA Trainees

It could be that the major reason for employer criticism of MDTA is that bad news travels faster and reaches more people than good news. Certainly employer opinion of the graduates of MDTA institutional training is much higher than employer opinion of the overall program. Of the employers contacted (excluding St. Louis), 294 (90 percent) responded to the question whether they had hired MDTA trainees. Of the total, 136 said "Yes" and 158 "No." Of the "Yes" respondents, 67 (49 percent) were able to say something about the characteristics of these trainees.

The employers were asked to consider nine factors in the evaluation:

- Skill training
- Motivation and orientation to work
- Ability to grasp job
- Attitude
- Computation skills
- Communication skills
- Attendance
- Promptness
- Promotion potential

Employers were asked to compare MDTA graduates with those hired through "regular" channels. The rating scale was as follows: (1) poor, (2) below average, (3) average, (4) above average, and (5) outstanding.

Tables 7-8 and 7-9 show the results of this appraisal in absolute and relative terms. The first observation is that the responses are relatively symmetrical around the "average" characteristic for all categories of performance. Of the 533 evaluative comments, only 19 (3.5 percent) rate trainees as "superior"; however, even more importantly, only 11.8 percent are rated "poor." A larger

TABLE 7-8

Appraisal of MDTA Trainees
(By number)[a]

Categories	Outstanding	Higher than Average	Average	Less than Average	Poor	Total
Skill training	2	18	21	14	6	61
Motivation and work orientation	2	17	21	13	10	63
Ability to grasp job	1	16	27	13	3	60
Attitude	4	16	19	15	8	62
Computational skills	2	15	19	15	5	56
Communication skills	1	11	21	18	5	56
Attendance	3	18	13	18	10	62
Promptness	2	16	16	17	9	60
Promotional potential	2	17	18	9	7	53
TOTAL	19	144	175	132	63	533

[a] Data collected by Olympus Research Corporation.

TABLE 7-9

Appraisal of MDTA Trainees (By percentages)[a]

Categories	Outstanding	Higher than Average	Average	Less than Average	Poor	Total
Skill training	3.3%	29.5%	34.4%	23.0%	9.8%	11.4%
Motivation and work orientation	3.1	26.9	33.3	20.6	15.8	11.8
Ability to grasp job	1.6	26.7	45.0	21.7	5.0	11.2
Attitude	6.5	25.8	30.6	24.2	12.9	11.6
Computation skills	3.6	26.8	33.9	26.8	8.9	10.5
Communication skills	1.8	19.6	37.5	32.1	8.9	10.5
Attendance	4.8	29.0	21.0	29.0	16.1	11.6
Promptness	3.3	26.7	26.7	28.3	15.0	11.2
Promotion potential	3.7	32.1	34.0	17.0	13.2	9.9
TOTAL	3.5%	27.0%	32.8%	24.7%	11.8%	100.0%

[a] Data collected by Olympus Research Corporation.

percentage (27.0 compared to 24.7) are rated "above average" than "below average," but the difference is not significant. It is significant that more than 63 percent of the MDTA employees are rated average or above. If we consider that the raters were generally hostile and that institutional training is drawing large numbers of enrollees from the disadvantaged, this is better than might be expected.

The often-voiced opinion that MDTA enrollees are poorly motivated, have poor attitudes, and have a tendency to be late or absent from work is reflected in the data. Nearly 13 percent are rated "poorly motivated," 13 percent "poor attitude," 16 percent "poor attendance," and 15 percent have "difficulty getting to work on time." These characteristics are frequently combined into the "sociological" aspects of work, and many employers feel they are more important than the achievement of job-related skills.

Each of the evaluation elements can be examined in some detail and interesting relationships identified. Two, however, stand out from the rest: First, employers report MDTA trainees' attendance as either "above average" or "below average," with little concentration in between. It is the only characteristic that has a bimodal distribution. Second, employers rate nearly 70 percent of the MDTA graduates they hire as having average or better promotion potential.

Employer Recruiting Sources

Employer methods for recruiting qualified workers range from reliance on "walk-ins" to direct recruitment from training institutions. Table 7-10 shows (by city) the number and percentage of all interviewed employers who name various recruitment sources. Table 7-11 gives the breakdown by industry.

TABLE 7-10

Recruiting Sources
(By city)[a, b]

Source	Anchorage	Dallas	Duluth	Fresno	Miami
Company files	2	5	8	13 (16)	9
Walk-ins	14 (24)	8	9 (19)	7	4
Employee referral	-	3	1	6	8
Employment Service	8	16 (30)	17 (35)	18 (23)	10 (14)
Private agencies	2	4	2	7	4
Newspapers	10	13 (25)	7	7	20 (28)
Union referral	1	-	1	4	4
Community agencies	6	1	1	4	3
Urban League	-	-	-	-	-
CEP	-	-	-	6	-
Skills Center	-	1	-	1	1
OIC	-	-	-	-	-
All other	15 (25)	2	2	6	9
TOTAL	58	53	48	79	72

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[a] Data collected by Olympus Research Corporation.

[b] Numbers within parentheses represent percentages of significant utilization of source within specific city.

TABLE 7-10 (cont.)

Source	Milwaukee	Montgomery	New Haven	New Orleans	Paterson
Company files	9 (17)	5	4	3	5
Walk-ins	6	5	6	8	8 (18)
Employee referral	1	9 (16)	-	9	4
Employment Service	14 (26)	13 (22)	14 (29)	15 (22)	10 (29)
Private agencies	2	9 (16)	4	6	3
Newspapers	8	7	11 (23)	15 (22)	8 (18)
Union referral	-	1	-	4	2
Community agencies	5	1	-	4	1
Urban League	-	-	1	-	-
CEP	-	-	1	4	-
Skills Center	-	-	-	-	-
OIC	3	1	2	-	-
All other	6	7	5	1	4
TOTAL	54	58	48	69	45

TABLE 7-10 (cont.)

Source	Rochester	Salt Lake City	Wilmington	Total	Percent Use
Company files	7	6	5	81	10.6%
Walk-ins	10 (16)	10 (16)	7	102	13.4
Employee referral	2	3	3	49	6.4
Employment Service	10 (16)	18 (29)	8 (16)	171	22.5
Private agencies	8	7	4	62	8.1
Newspapers	7	9	12 (24)	134	17.6
Union referral	2	3	1	23	3.0
Community agencies	3	1	4	34	4.4
Urban League	1	-	-	2	0.02
CEP	3	-	-	14	1.8
Skills Center	3	-	-	6	0.07
OIC	-	-	2	8	1.0
All other	6	5	4	72	9.4%
TOTAL	62	62	50	758	-

TABLE 7-11

Recruiting Sources
(By industry)[a]

Industry	Company Files	Walk-Ins	Employee Referral	Employment Service	Private Agencies	Newspapers
Mining	-	-	-	2	-	-
Contract construction	2	2	2	3	3	5
Manufacturing	31	37	26	81	31	53
Transportation, communication, utilities	7	12	4	13	4	12
Trade (wholesale and retail)	19	29	9	35	16	29
Finance, insurance, real estate	3	6	-	7	5	-
Services	16	13	6	21	3	27
Government	4	5	1	7	-	10
TOTAL	82	104	48	169	61	136
Percentage of use	10.8%	13.8%	6.2%	22.3%	8.1%	18.0%

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[a] Data collected by Olympus Research Corporation.

TABLE 7-11 (cont.)

Industry	Union Referral	Community Agencies	Urban League	CEP	Skills Center	OIC	All Other
Mining	1	-	-	-	-	-	-
Contract construction	4	2	-	1	-	-	2
Manufacturing	8	11	1	3	3	3	23
Transportation, communication, utilities	4	3	-	3	-	-	11
Trade (wholesale and retail)	2	5	-	2	1	-	9
Finance, insurance, real estate	1	2	-	3	-	2	4
Services	3	5	1	2	-	-	8
Government	-	5	-	1	1	-	15
TOTAL[b]	23	33	3	15	5	5	72
Percentage of use	3.0%	4.3%	0.2%	1.9%	0.6%	0.6%	9.5%

[b] Total for all recruiting sources = 756.

More employers cite "company files" and "walk-ins" than any other source. (These categories are combined because they represent direct transactions between employers and employees, without the participation of "brokers" or middlemen.) The difference, however, between the percentage of employers who name these sources and those who cite ES does not represent a significant number of employers. Twenty-four percent of the employers name company files and walk-ins, while 22.5 percent cite ES.

The other major recruitment source is newspaper want ads; 17.6 percent of the employers interviewed cited want ads. The "all other" category includes civil service systems, direct school referral, unions, etc.; 9.4 percent of the employers name these sources. "Private agencies" and "internal employee referral" rank considerably lower, with manpower programs grouped near the bottom. However, it should be noted that manpower program placements make up a portion of all ES placements.

More than 56 percent of the employers cite recruitment mechanisms relatively isolated from manpower programs: "company files," "walk-ins," "employee referral," "private agencies," and "want-ads."

Although ES is ranked as an important recruitment source by employers, the question as to the quality of jobs listed with ES agencies is very much to the point. It may be that ES is mentioned by more employers than other recruitment sources (with the exception of "company files" and "walk-ins") because employers list mainly their high-turnover jobs with local ES offices. An analysis of Job Bank data contained in Chapter Four supports this contention.

Employer Screening Devices

Information regarding screening devices used by employers is displayed by SIC code. Table 7-12 breaks down screening information in two ways: First, the number of times firms mentioned screening devices; second, in cases where a device is used 75 percent or more of the time, the number has been placed in brackets.

Interviewer recommendation and reference checks are used by about 28 percent of the firms included in the sample. Licenses and other credentials are required by less than 5 percent of the firms. Slightly more than 8 percent cite education, and 10.5 percent require experience for most occupations. It should be emphasized, however, that while most employers indicate that education and experience are not explicit screening criteria, they prefer "experienced people" or "high school graduates." Therefore, while company policy may not explicitly stipulate that a minimum educational level is required, when the screening process produces a high school graduate and a nongraduate, the former is clearly preferred. Often for entry-level jobs, experience is not required. While 3.4 percent of the firms require licenses or other credentials, this usually means a chauffeur's or driver's license. In some occupations, such as electrician, plumber, and stationary engineer, states require licenses. In any case, most occupations suitable to MDTA institutional training do not have excessive licensing requirements.

Looking at broad industrial groups, we see that the expected screening techniques emerge. Interviewer recommendation and reference checks predominate in every industrial group except government. In the latter industry, the major

TABLE 7-12

Screening Devices
(By industry)[a, b]

SIC Code	Industry	Screening Device Interviewer Recommendation	 Test Results	 Union Membership	 Reference Checks
1	Mining	- 1	[1][c] -	(1) -	(1) 1
	Construction	- 4	(1) 1	(1) 1	(2) 4
2, 3	Manufacturing	(14) 36	(4) 20	(6) 11	(13) 34
4	Transportation, communications, electricity, and gas	(4) 11	(2) 10	(4) 7	(6) 8
5	Wholesale, retail trade	(9) 30	(4) 14	(1) 3	(9) 26
6	Finance, insurance, real estate	(1) 8	- 4	- -	- 9
7, 8	Services	(10) 24	(2) 10	(1) 4	(7) 22
9	Government	(5) 8	(7) 6	(2) -	(4) 5
	TOTAL	(43) 122	(21) 65	(16) 26	(42) 109
	Percentage of use	27.9%	14.5%	7.1%	25.5%

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[a] Data collected by Olympus Research Corporation.

[b] Numbers within parentheses represent percentages of significant use of source within a specific city.

[c] Brackets indicate that the screening device was used 75 percent of the time or more.

TABLE 7-12 (cont.)

SIC Code	Industry	Screening Device Education	 Experience	 License or Credentials	 Other	 Total
1	Mining	(1)	-	-	-	(4)
		-	1	-	-	3
	Construction	-	-	-	-	(4)
		-	3	-	-	13
2,3	Manufacturing	(2)	-	(1)	(3)	(43)
		11	16	2	1	131
4	Transportation, communications, electricity, and gas	(1)	(2)	(1)	-	(20)
		4	3	1	2	46
5	Wholesale, retail trade	(1)	(1)	-	(1)	(26)
		6	12	2	3	96
6	Finance, insurance, real estate	(1)	-	-	-	(2)
		3	2	-	1	27
7,8	Services	-	(2)	(2)	(1)	(25)
		9	17	5	4	95
9	Government	(1)	-	(1)	(1)	(21)
		8	3	5	3	38
	TOTAL	(7)	(5)	(5)	(6)	(145)
		41	57	15	14	447
	Percentage of use	8.1%	10.5%	3.4%	3.4%	592%[d]

[d] This number = 100%.

screening device is testing, reflecting the widespread use of civil service systems. Employers in SIC group 75, "automobile repair, automobile services, and garages," require high levels of experience. Since a considerable volume of MDTA training occurs in this cluster, placement difficulties can be understood.

The survey indicates that screening devices are often informal and subjective. Custom or employee preferences, rather than employer criteria, may often be the deciding factors as to which applicants are accepted for jobs. In other words, new employees are often selected on the basis of how well they can adapt to conditions of employment (which have emerged informally throughout the years) or whether they will be accepted by old-line employers and foremen.

In some cases, however, screening devices are comprehensive and formalized. For example, a Salt Lake City armored car company requires the following:

(1) Check of the applicant's driving record

(2) Possession of a chauffeur's license or ability to pass the test

(3) Polygraph test

(4) Bonding investigation

(5) FBI investigation for licensing as a special police officer

(6) Proficiency with a hand gun

After having summarized these requirements, the office manager said, "We are always in the market for minority members and the less fortunate. If you know any Indians, blacks, or Mexican-Americans that can pass our entrance requirements, please send them over." He was serious.

This is not an isolated case. Many employers are actively seeking what they call "qualified minorities."

LAYOFF AND RECALL PATTERNS

Recent layoff and recall patterns of industry are typified by the firms included in this evaluation. Two hundred and five employers responded to the question; the breakdown is as follows:

Response	Number Responding	Percentage Responding
No layoff or recall	117	36.0%
Heavy layoff, no recall	28	8.6
Highly seasonal employment	15	4.6
Small layoff and recall	36	11.0
Other (rely on contract negotiations, etc.)	9	2.7
No response	120	37.0%

Because the 120 firms that did not respond are spread across the entire geographic and industrial spectrum, it seems safe to assume that the pattern established by the responding firms is valid.

In the "heavy layoff, no recall" group, 27 were large firms and one was medium sized. Industrially, there were 14 in manufacturing, three in forestry and mining, and four in wholesale or retail trade. The remaining industrial groups were not affected significantly by heavy layoff activity.

The "seasonal" characteristic applied to 15 firms, of which five were in "services," three in manufacturing, and three in wholesale and retail trade. Table 7-13 shows the industrial distribution of these two patterns.

TABLE 7-13

Layoff-Recall History of Firms
(By SIC code)[a]

SIC Code	Industry	Seasonal	Heavy Layoff
1	Construction, mining	-	3
2, 3	Manufacturing	4	14
4	Transportation, communication, and utilities	1	2
5	Trade (wholesale and retail)	1	2
6	Finance, insurance, real estate	-	1
7, 8	Services	6	3
9	Government	1	1
TOTAL		13	26

[a] Data collected by Olympus Research Corporation.

THE INCIDENCE OF INTERNAL TRAINING PROGRAMS

Industry relies heavily on informal, on-the-job training. Formal training programs, vestibule arrangements, and apprenticeship programs are used significantly less in firms of all sizes and virtually not at all in small firms (less than 50 employees). Thirty-six percent of all responding firms reported that they do not conduct any training programs. For large firms, the percentage is 31 percent; medium, 38 percent; and small, 51 percent.

Of course, employers in firms of all sizes use OJT either implicitly or explicitly. OJT is a continuing process that often occurs without the employer's or employee's recognizing its presence. In many cases new employees are hired and trained by experienced personnel who at the same time fulfill production quotas.

Table 7-14 summarizes the internal training activities of responding firms. Several comments about the data seem appropriate to eliminate possible misinterpretation. First, employers tend to divide training into various "levels." The classifications from lowest to highest might be as follows:

(1) Orientation

(2) Upgrading

(3) Special seminars

(4) Vestibule

(5) OJT

(6) Apprenticeship

(7) Formal internal and external programs

TABLE 7-14

Internal Training Activities
(By firm size)[a]

Firm Size	Number of Firms	Type of Training Activity: OJT	Formal	Vestibule	Other (Specify)	None
Large (500 plus)	144	69[b]	26	3	22[c] 1[d] 2[e] 1[f] 2[g]	44
Medium (50 to 499)	125	55	7	-	5[g] 6[c]	47
Small (less than 50)	39	10	3	-	1[c]	20
Not available	20	-	-	-	-	-
TOTAL	328	134	36	3	40	111

[a] Data collected by Olympus Research Corporation.

[b] The totals are not synonomous with the number of firms contacted because some indicated more than one type of training activity, and some did not respond.

[c] Apprenticeship

[d] Seminars

[e] Upgrading

[f] Military

[g] Orientation

Some firms do not consider training below "special seminars" or "vestibule" as training per se. Others consider anything that provides any information to employees as "training." Most firms in this study, however, did not consider "orientation" and "upgrading" as internal training programs.

The number of current apprenticeship programs seems relatively small in relation to the number of unionized firms. It may be that many firms (and unions) have suspended or curtailed apprenticeship programs because of an oversupply of workers or that many employers hire from sources outside unions. Of course, construction contractors constitute a small percentage of the ORC sample. Apprenticeship is most prevalent in the construction trades.

The major point to be made, however, is that employers are not actively training on a large scale at the present time. Most non-OJT programs are dormant, and even apprenticeship programs are significantly below previous levels. The occupational coverage of current employer training is extremely limited. There are a few occupational clusters (e.g., medical and machinist) that have relatively large numbers in training.

The level of employer-sponsored training in most traditional MDTA occupational clusters is very low. This may be an indication of low demand in these occupations; conversely, it is not known whether employers conducted training in these occupations when economic conditions were more favorable. The absence of employer-sponsored training programs may make it easier to place the graduates of manpower program trainees in some occupations, since, if employer training programs exist, employers would almost certainly fill their vacancies with graduates of these programs. This is true in the appliance repair field, where both manufacturers and retail outlets have formal training programs for repairmen. It is difficult for MDTA to compete with these programs. The auto companies and some dealers also have formal programs for mechanics. Few MDTA auto mechanics graduates are placed with "authorized dealers" who hire the graduates of company-sponsored training courses.

PUBLIC EMPLOYERS AND "SKILLS SHORTAGE" OCCUPATIONS

A total of 33 public employers was contacted; veterans hospitals, training institutions, other medical facilities, and the U.S. Post Office comprised the majority of public employer interviews. Each agency is deeply involved in the civil service recruitment and screening system. The rigidities of this system are well known, and the methods used to "circumvent" its application are of considerable interest. When an organization wants to hire a specific individual or group of individuals, there are methods of "getting around" the system.

The usual method involves the use of a part-time help provision called the "700 Hour Authority." It permits administrators to hire individuals for temporary or part-time positions without hiring from civil service registers. Using this device, a firm can hire an individual and train him or her for about four months. During this time, the individual is "coached" on how to take the civil service examination. As an administrator of a Veterans Administration hospital noted, 'If we like the individual, we will get her through civil service." In other words, for certain individuals, the civil service system is not a barrier to employment.

However, the system does not always work. Specifically, a NAB office in one of the cities hired a young black girl under the "700 Hour Authority." She took the civil service test pertaining to her job and emerged twenty-first on the register. As a consequence she was released from her job. It is ironic that this employee was classified as "disadvantaged" and that the agency (ES), charged with assisting the disadvantaged, was forced to terminate the girl.

Public employers in some areas have not devised methods of "beating" the system and express considerable dislike for civil service. A public employer in Anchorage, for example, says his biggest complaint about public employment is that "civil service screens out the people that MDTA seeks to help." However, even if MDTA graduates do manage to make it into civil service, there are nevertheless further problems. For example, another public employer in Anchorage noted that one of the basic problems in the public job sector is that "too many rungs are missing in the career ladder for lower level employees. . . . It is practically impossible to advance."

Aside from the recognition of these problems and variations of the above-mentioned method of getting around the system, public employers apparently do not expend much effort in finding ways to move MDTA trainees through the system. Quite likely, one of the major reasons for this passive attitude is that the number of MDTA trainees going into public jobs is relatively small. Additional pressure is likely to arise as more and more public program trainees encounter the civil service system and fail to move through it effectively. Perhaps the Public Service Career program will help alleviate these problems.

INSTITUTIONAL TRAINING VERSUS OJT

Though it cannot be documented, employers appear to favor OJT over institutional training in most occupations. A miami automotive dealer contends that "school trainees learn on clean transmissions and can't handle the dirty work on a real repair job." In other words, they become disillusioned and find it difficult to accept the conditions in a real-world work environment.

A Rochester hospital official said: "We are able to take people in with zero training, train them on the job, and succeed as well or better than with those who have had six months of MDTA training." One of the major reasons why "MDTA can't market what it produces" is because "the training doesn't make a difference in most cases."

In a somewhat different vein, a Montgomery cement products manufacturer believes that institutional programs "inflate trainees' egos" so that they have a difficult time accepting the real world of work at a reasonable pay scale. OJT "conditions" the employee to accept the realities of work as well as the pay structure pertaining to it, he believes.

Many employers are suspicious of institutional manpower programs. A Paterson employer, for example, asked the ORC interviewer: "Do they really train people, or are they providing emotional support?" Many employers fear that if they hire the graduates of institutional training programs, they will be "stuck" with low producers, and if they are forced to let them go, they will be criticized as "racist" by militant and not so militant community organizations. "All such criticism makes the newspapers and TV, you know," one employer stated.

There are many highly technical occupations for which training is easy in an institutional setting; however, many (not all) MDTA occupations have traditionally been the subject of formal or informal OJT programs. Most employers (the notable exceptions are employers who hire construction "craftsmen") have utilized and are accustomed to OJT (their own programs as opposed to public programs). When they compare the products of institutional training with employees obtained through traditional training channels, MDTA trainees come out second best. The comparison, of course, is not altogether valid. Employers do not take into account the fact that MDTA trainees are far from the "cream of the crop," and in fact have often been selected for training because of their employability problems. Employers' "trainees" are usually the best the labor market can produce at a given time.

Employers are also critical of MDTA courses which have traditionally been the subject of institutional training; e.g., auto mechanics, diesel mechanics, clerical workers, etc. The chief criticism is that most MDTA graduates do not emerge as "skilled craftsmen." They express impatience with the explanation that most MDTA courses are too short to produce anything other than entry workers. "If a man says he is a mechanic, or a woman says she is a scretary, I expect them to perform accordingly," one employer said. A few employers recognize the problems MDTA administrators face. For example, a Fresno hospital administrator, when asked about the effectiveness of institutional training, responded: "Not enough funds are provided to train properly."

If six-month programs in health and medical occupations are not sufficient to provide adequate training, there is little reason to believe that qualified auto mechanics, diesel mechanics, and other craftsmen can be trained in six months. Although not stated directly, this has been the basis of much employer criticism of MDTA institutional training.

SUMMARY

Employers are uninformed, unethusiastic, and disinterested in institutional MDTA training. Although there are regional differences, employers have had little invited or self-initiated contact with the planners and operators of institutional training. Few know which institutions are participating in MDTA or which occupations are included in the programs. Employers, virtually without exception, share a stereotyped image of public training programs that is wasteful, overadministered, overstaffed, and generally ill equipped to deal with community employment problems. Few employers, however, can justify this image or document their charges, and very often they contradict themselves. For example, while condemning the overall program in strong terms, employers rate most MDTA graduates as "average or better than average employees" and rate 70 percent as having an average or better than average promotion potential.

This negative attitude may be due to the fact that "horror" stories receive more attention than "success" stories, but it may also be due to the relatively depressed economic conditions that existed at the time ORC made its survey. Most firms have not experienced manpower shortages over the past three years, and, in fact, have been overwhelmed by the constant pressure of new applications and referrals. In such a setting, employers are not apt to be open minded about public training programs.

Most employers, especially those who hire large numbers of semiskilled workers, prefer OJT (their own as opposed to public programs) over institutional training. Craft employers for the most part do not believe that institutional programs are producing workers with skills adequate to compete in the craft market. The basis for this criticism, although not stated directly, is the relatively short length of most institutional programs.

Employer preference for OJT is based upon the employers' contention that it does not take six months to train a machine operator, for example. Many employers believe they could do an effective training job in a period of two weeks if they had a properly motivated individual. This viewpoint is illustrated by the comment of the personnel director of a small textile firm in Wilmington. He contends that "skills are not as lacking as attitudes." Similarly, a Dallas employer sees the "biggest failure" of MDTA as "failure to understand what job training is for." In his opinion, skill acquisition is not the main purpose of job training but rather to develop an orientation to the world of work. The personnel director of a Dallas hospital said virtually the same thing when he noted, "Job environment is the major problem, not job training." According to employers, if MDTA institutional trainees are to be successful after training, they must be able to be absorbed into the "job environment." More than skill training is needed for a complete adjustment.

It should be emphasized that most of these comments came from what Doeringer and Piore[2] have termed "enterprise specific" employers, or from employers who train their workers (generally semiskilled) in skills which are not transferable. Craft employers, on the other hand, recognize the necessity for institutional training but question whether the time and resources available to MDTA are sufficient to do the job.

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[2] Peter B. Doeringer and Michael J. Piore, Internal Labor Markets and Manpower Analysis (Lexington, Mass., D.C. Heath & Co., 1971).

Appendix

Part I. Labor Market Bulletin

Part II. Data Bank Bulletin

Part III. Job Bank Analysis

Part IV. Use of JOLT Job Vacancy Information to Indicate Shortage Occupations in Manufacturing

Part V. Changes in Course Offerings

Part VI. Unknown Enrollee Characteristics

Part I
LABOR MARKET BULLETIN

State of California
Department of Human Resources Development
Coastal Area

OCCUPATIONAL SUMMARY STATEMENTS
FOR MDTA TRAINING PROPOSALS

February 3, 1971

Labor Market Information Bulletin No. 57

The attached Occupational Summary Statements were prepared by San Francisco Research and Statistics to answer questions raised by field office personnel who are involved in referring clients to MDTA training. They provide, for selected occupations, labor market information and an evaluation by this unit as to whether an MDTA graduate would have a reasonable expectation of employment. The information contained in each should provide the framework within which the job agent or other case-responsible person can assess a particular client's likelihood of obtaining employment at completion of training. Where an occupation appeared to have favorable prospects, the study was expanded to include employer suggestions as to course content and essential skills and aptitudes.

Although most data was collected in the Bay Area, field staff in other areas might be able to apply our data collection experience to their respective areas.

Occupations selected are those for which we have received requests for information or those we believe might afford employment prospects. Additional statements of this type may be issued periodically. Job agents, counselors and other field staff directly involved in referring clients to MDTA or WIN training may direct requests for occupations they would like studied to the Area Labor Market Analyst in San Francisco. At a minimum, we will provide any information we have available and, as time scheduling permits, we will prepare similar statements.

Additional copies may be obtained from the Area Labor Market Analyst in San Francisco.

attach.

California Dept. of Human Resources Development
Research and Statistics, San Francisco

Survey Area:
San Francisco-
Oakland Bay Area

OFFICE MACHINE SERVICEMAN

This summary covers those who repair such equipment as typewriters, adding machines, addressographs, mailing machines, calculators, accounting machines and duplicating equipment. Data processing equipment technicians were excluded from this study.

With the growing use of office equipment of all varieties, the field of office equipment repair is expanding, providing a continuing need for servicemen. At the present time job opportunities for repairmen are good. Over the long term, job prospects should continue to be favorable. As well as staff increases in central cities, new branches are opened by some firms in surrounding cities to serve areas with industrial expansion. Turnover also creates openings as servicemen advance to sales jobs. This occupation is less influenced by downturns in the economy than many others. In slow periods some firms may defer servicing or cancel routine service contracts, but such cutbacks are offset by several factors: most firms continue service since they may otherwise have major work later; older machines that are retained require more repair; and additional equipment is installed by firms electing to do in-house duplicating, for example, instead of paying the greater costs of having the work contracted out.

Office machine servicemen are employed by manufacturers in their sales and service branches and by dealers (covered in this summary). Others may work for repair shops or companies such as banks or government agencies which have their own equipment maintenance departments. While specialization exists, employers expect their employees to be able to work on more than one line of equipment, perhaps all makes of a particular kind of equipment or several kinds of equipment produced by a manufacturer.

Distinctions between employment with manufacturers and dealers are identifiable, yet some job features and requirements are common to both. Workers in this field must have mechanical aptitude, be able to deal with people, be neatly groomed, and be able to work on their own in the field. They should also possess a valid California driver's license and for some firms they have to provide their own transportation for use on the job. From two-thirds to ninety percent of the work is done at the customer's place of business. The hiring requirements of manufacturers' outlets are generally more stringent than those of dealers. They are more likely to require high school graduation or its equivalent whereas dealers generally require only sufficient education to enable one to use the manuals and communicate effectively. Tests given by a few employers cover abstract reasoning, mechanical aptitude and an interest inventory.

(continued)

Office Machine Serviceman (Cont'd.)

Training programs should stress basic electricity and mechanics. Trainees should be able to read schematics. To the extent possible, salesmanship or customer relations should also be incorporated into any training program. Some firms like persons to have a background in electronics but this is by no means universal. This interest is expressed primarily by manufacturers' branches as they generally sell and service electronic equipment. Mathematics per se is not essential. The person, however, needs what may be necessary for his understanding of electricity theory and where pertinent, electronics theory. Also, servicemen must be able to prepare invoices and compute taxes and total charges on service calls.

Persons hired receive on-the-job training and instruction by manufacturers, frequently at company schools, on the particular makes they will be servicing. The training is received both by those working for dealers and for manufacturers. Since manufacturers train new employees thoroughly on their brand equipment, they do not find the practical aspects of our training as useful as do dealers who handle many makes. Generally, however, such things as learning to solder, how to use the tools, and how pulleys and gears work is helpful. Also, someone who has been exposed to the field, they feel, will know whether he likes it and thus be more likely to remain on the job. Overall, such training is apt to give the person the edge in obtaining employment. Since they have to be further trained on equipment serviced by the employer, they are usually hired as trainees even upon completion of training. Some employers provide tools; others require the individual to supply his own.

Notes regarding specific machines: training in basic electronic theory, while not necessary to work on many machines, is important for repairing dictating equipment and electronic calculators (still a small segment of field). The trend in copy equipment is away from mimeograph and to offset and electrostatic copiers. To service offset equipment one needs to be familiar with processes, chemistry, inks, concentrates, etc. and therefore former offset pressmen are most likely to qualify for these jobs.

MDTA Recommendation: The occupation of office machine serviceman is recommended for training provided individuals selected are those who can deal effectively in public contact situations and meet the basic aptitude requirements.

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California Dept. of Human Resources Development
Research and Statistics, San Francisco

Survey Area:
San Francisco-
Oakland Bay Area

HOUSEHOLD APPLIANCE REPAIRMAN

There is a need for qualified household appliance repairmen. This need can be expected to continue with the growing use of major appliances and their increased complexity. These workers, who repair such major appliances as ranges, refrigerators, waste disposers, washers and dryers, may be employed by the service department of a retail store, an appliance repair shop, a manufacturer's local service center or an appliance wholesaler. In some firms they are called service technicians or servicemen.

Employer hiring requirements range from journeyman status to a willingness to hire trainees. Since there is a shortage of fully qualified workers, most employers will consider an applicant with some experience or one who has had training that included practical experience. The following were pointed out by employers as being most important: mechanical aptitude; an understanding of basic electricity; an ability to diagnose malfunction, trace electric circuits, read schematics and read meters (amps, watts, volts).

Some high school is preferred but educational requirements are lenient. Servicemen should be able to understand manuals and be able to prepare service tickets and bills. (These must be neatly prepared). Other requirements include good grooming and a courteous manner. These are particularly important in this occupation as it is essential that the serviceman will be accepted by the housewife. Most of the work is done in the field; therefore, a valid California driver's license is required and the individual should have a good driving record.

The training should give the individual some understanding of most equipment, but it is necessary that he be adept at repairing only two or three. The more equipment he can work on the better, since the customer who calls regarding one item may have questions about others once the repairman arrives at the home. Many employers are willing to train servicemen to work on other appliances if they already know several and to work on gas if their only experience is with electric. The appliances most important for the trainee to have extensive practical experience on are refrigerators and ranges. If he has a thorough background on these, employers are usually willing to train on the others.

Workers in this trade must have their own hand tools including screwdrivers, pliers and set of wrenches. Employers generally supply technical devices and instruments.

(continued)

Household Appliance Repairman (cont'd)

While some of the skills learned could be applied to repairing small electrical appliances, there is no demand for this work. The number of small appliance repairmen has been declining as persons find it cheaper to replace broken items than to have them repaired, and some companies will even replace defective items rather than repair them.

MDTA Recommendation: There is a good labor market for household appliance repairmen and the occupation is one that can be viewed as offering a reasonable expectation of employment for MDTA graduates. Based on the earlier classes, it appears that youth have difficulty in being placed. There may be employer reluctance since the work is usually done in the field—in private homes—without close supervision.

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California Dept. of Human Resources Development
Research and Statistics, San Francisco

Survey Area:
San Francisco-
Oakland Bay Area

MOTORCYCLE MECHANIC

The job market for motorcycle mechanics has increased over the last four years in response to increasing motorcycle sales. According to one local motorcycle news magazine, sales have tripled over the past year. While sales have increased and it is believed will continue to, repair and servicing has not been able to keep up with the pace. The net effect is a shortage of skilled motorcycle mechanics throughout the San Francisco-Oakland labor market area.

One of the major factors affecting the supply of qualified motorcycle mechanics has been the absence of any formal training program. In the past, local motorcycle mechanics gained experience from first working on their own bikes and later learning on the job. A majority of the shops contacted in our survey indicated that most of their mechanics were former customers. This informal, personalized training process, although adequate at one time to meet employers' personnel needs, currently is inadequate to bring new entrants into an expanding market.

Employers attempted to meet increasing repair demands by hiring experienced auto mechanics (a motorcycle engine functions the same in theory as an auto engine) to work as motorcycle mechanics. Despite auto mechanics' transferable skills, most employers were dissatisfied with their performance, and in a majority of the cases, this resulted in the mechanics' termination--and employers' apprehension over the future hiring of auto mechanics. Reasons given by employers for the failing of auto mechanics were: (1) the sloppy work done by auto mechanics--motorcycle mechanics cannot hide work under the hood like auto mechanics, (2) motorcycle work requires more precision timing than is necessary for an auto, (3) the mechanics' attitude toward the work.

Despite the increase in demand for motorcycle mechanics most shops are not willing to take on inexperienced mechanics. They usually require their mechanics to have a minimum of two years prior experience before being hired, gained either by working on their own bike or graduating from a trade school specializing in motorcycle repairs.

At the present time there are no motorcycle schools in the Bay Area. The only schools in California are Los Angeles Trade and Technical (public school) and Honda (private), both of these are in the Los Angeles area.

(continued)

Motorcycle Mechanic (cont'd)

MDTA Recommendation: There is a small unmet demand for experienced motorcycle mechanics in the Bay Area. Due to problems in obtaining formal training, it is recommended that job development be pursued in order to obtain a job commitment before sending a person with no or limited experience to one of the two training facilities in Los Angeles.

California Dept. of Human Resources Development
Research and Statistics, San Francisco

Survey Area:
San Francisco-
Oakland Bay Area

DIESEL MECHANICS

Job opportunities for diesel mechanics, in the Bay Area, are declining as two major employers have closed. The closings of these two shops resulted in layoffs of 265 diesel mechanics representing over 20 percent of employable diesel mechanics in the Bay Area. The assimilation of these displaced workers into the labor force has been curtailed by defense cutbacks and poor economic conditions. Barring this latter condition, the best source of employment for mechanics has been with the large fleet operators—A/C Transit, U.S. Government, PIE, etc. Western Greyhound would normally top this list but with the closing of their reclamation division, additional personnel hiring has been frozen until displaced diesel mechanics are absorbed (freeze is expected to continue through next year).

A majority of the shops contacted in our survey suggest that new entrants should receive training in general theory of functional systems rather than training in changing parts.

MDTA Recommendation: Even though the job market for diesel mechanics could possibly absorb a highly skilled journeymen worker coming into the area, at any particular time; job openings for persons lacking journeyman status including MDTA graduates are negligible.

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California Dept. of Human Resources Development

Survey Area:
San Francisco-
Oakland Bay Area

TRUCK DRIVERS

At the present time, employment opportunities for truck drivers are poor throughout the Bay Area. Potential motor freight users, attempting to conserve on operating costs, in view of declining business activity, are tightening inventories and consolidating freight shipments, thereby reducing the number of drivers needed.

Contact with various unions, revealed that both San Francisco and Alameda Locals have a number of their A list drivers unemployed--some drivers with as much as 15 years experience. Contra Costa, although keeping the number of its unemployed members down by discouraging new drivers from signing up until job openings occur are also feeling the effects of the economic slowdown.

Under normal economic conditions, an inexperienced person may gain entry into the occupation by working as a helper to a truck driver, assisting him in loading and unloading, and occasionally doing some relief driving. From the helper position a person can obtain his 1 or 2 California drivers license if the employer certifies that he can handle the truck. For those persons without certification, the Department of Motor Vehicle requires that the potential licensee provide the truck for the driving examination--in the past this has provided quite a barrier for our clients.

Jobs for experienced drivers are usually dispatched through local 85 in San Francisco, local 70 in Alameda, and local 315 in Contra Costa. Employers of truck drivers do take applications from people seeking driver jobs, but when hiring, they most often go through the union.

MDTA Recommendation: Training is not recommended in this field since job opportunities for inexperienced drivers are at best limited, and should continue to be so throughout 1971. Additionally, the coolness to any private training (MDTA, etc.) by unions suggests problems for potential trainees entering the heavily unionized field of trucking.

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California Dept. of Human Resources Development
Research and Statistics, San Francisco

Survey Area:
San Francisco-
Oakland Bay Area

SHEET METAL WORKER

At the present time, job opportunities for skilled sheet metal workers are scarce as construction and production-related activities continue to feel the effects of the slowdown in the economy. In addition, wide use of production-line fabricated sheet metal products in construction and in other industries has limited the growth of journeyman sheet metal workers.

Sheet metal workers are members of Locals 104 in San Francisco, 216 in Alameda, and 272 in San Mateo Counties. In San Francisco, apprentice candidates must pass a written and oral interview given once a year before being placed on the "active list" from which employers select candidates. Normally, 35 out of approximately 100 persons taking the written and oral examination pass, and of those passing only 15-25 persons are placed as sheet metal workers. Only 8 apprentices were placed in San Francisco in the first 10 months of 1970. Tutorial sessions are held weeks in advance of scheduled examinations for persons seeking assistance.

Beginning in 1971, Alameda County will follow the same procedures as San Francisco in their selection of apprentice candidates. In the past, persons interested in a career in sheet metal in Alameda County solicited their own job and then enrolled in Laney College's sheet metal indentured apprenticeship program.

Sheet metal workers in aircraft production and repair belong to Local 1781 of the Air Transport Employees. Aircraft sheet metal workers must have special knowledge of metal alloys and tolerances, thereby requiring work skills not comparable to the sheet metal workers under consideration in this proposal.

MDTA Recommendation: At the present time, the job market for sheet metal workers is saturated with journeyman workers. Although, entrance examination for inexperienced sheet metal apprentices will be given sometime after January in both San Francisco and Oakland; job opportunities will remain limited until a majority of the unemployed journeymen and apprentices return to work. Pre-apprentice sheet metal training will not prepare potential candidates to pass the general aptitude portion of the sheet metal entrance examination, but training may give the candidate an edge in his oral interview.

Persons with a minimum of six months previous sheet metal experience (John O'Connell and other institutional sheet metal training not acceptable) are eligible upon approval by the joint apprentice board, to be placedbefore inexperienced "active list" apprenticeship candidates.

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California Dept. of Human Resources Development
Research and Statistics, San Francisco

Survey Area:
San Francisco-
Oakland Bay Area

BICYCLE REPAIRMAN

Traditionally, most bicycle shops are very small, usually managed by a family employing one full-time worker. The owner, besides being responsible for sales, usually handles repairs and employs additional part-time personnel (high school or college students) during the summer months when business activity is at its peak.

Training for bicycle repairmen has generally been gained on the job. The length of time necessary to become qualified, although dependent on the individual, is usually from two to three years. The mechanic, besides replacing and repairing wornout or broken parts, must be able to sell and prepare sales invoices requiring basic reading and writing skills. Experienced bicycle mechanics make from $3 to $5 per hour.

Owners of bicycle repair shops in the East Bay, recognizing the need for trained personnel, have approached vocational schools (Laney College) in an attempt to establish training classes for bicycle repairmen. To date, no formal training program has been set up except for the two-day Schwinn program for experienced mechanics.

With increasing public acceptance of bicycle racing and pleasure riding, bicycle sales and accompanying services have, according to one source, increased by 200 percent over the year. Most of the local bike shops contacted in our survey stated they were desperately in need of experienced repairman at the beginning of June. Some shops attempted to meet increasing repair demands by hiring inexperienced personnel and training them to do standard repairs not requiring much skill or specific knowledge—thereby releasing experienced mechanics to handle more difficult repairs. Small family shops, unable to hire experienced personnel, have become reluctant to employ inexperienced persons and invest time and money in training for fear of personnel turnover—this has resulted in their either reducing or discontinuing repair services. Most bicycle shops have experienced a high frequency of personnel turnover, perhaps resulting from their past and present hiring from the student population whose employability and future is highly unstable. Large shops (5+ employees) have found it impossible to hire experienced American personnel and have brought in experienced mechanics from Mexico to fill new and vacated positions. The net effect of these trends has resulted in inadequate servicing of current repair demands.

In summary, despite the seasonal decline in bicycle sales during January, February and March most employers contacted were interested in employing stable career personnel rather than seasonal workers.

(continued)

Bicycle Repairman (cont'd)

Ten firms were contacted in our local market survey--four of these located in the East Bay. Based upon comments made by these East Bay bicycle shops, representing the largest local bicycle shops, it was estimated that three inexperienced new entrants could currently be absorbed. By spring (April) most bicycle shops begin their seasonal expansion, thereby possibly providing additional employment opportunities for four new entrants, throughout the Bay Area.

In considering the feasibility of exploiting the current and projected demand for experienced bicycle mechanics, the case-responsible person should be aware of several points. First, the current low wages for inexperienced persons, usually the minimum legal wage (1.65 per hour), makes it difficult for an adult to support a family. Second, because of the limited duration of funding under the OJT program, the average person would only be able to grasp a basic knowledge of the job--and then it is highly questionable how much he could then command in wages. Third, there is no formal or on-going institutional training program. Fourth, occupational work skills for bicycle mechanics are unique and not transferable to other occupations (i.e. motorcycle mechanics).

MDTA Recommendation: The limited nature of employment possibilities currently available and anticipated over the next six months suggests development of an OJT program which would be more appropriate than institutional MDTA training.

10/70

California Dept. of Human Resources Development
Research and Statistics, San Francisco

Survey Area:
San Francisco-Oakland
Bay Area

UPHOLSTERER, FURNITURE

The job market for furniture upholsterers is relatively static. A prime reason for the lack of expansion, both over the past several years and anticipated, is increased competition from furniture made in the Southeast United States. The price has been low, and, in addition, today the product is much improved. Because of this people are finding they can buy new furniture cheaper than the cost of recovering.

Shops that do reupholstery and custom work generally are small and may employ as few as two or three upholsterers. To be hired in most small shops the person would have to be a journeyman upholsterer. To achieve journeyman status usually requires three years experience building or rebuilding furniture from start to finish although they need not sew and in some shops they do not do the cutting. Nevertheless, it is useful to have at least a knowledge of these procedures. Most working in the field had been trained on the job; some received formalized training. Since the costs of training a worker on the job are high, one journeyman almost full time, there are few apprentices.

Some employers will occasionally hire an inexperienced worker, who is usually on a trial basis for 30 to 90 days. It is more likely to be with a firm making new pieces than one doing reupholstery since there is some specialization in the new work, such as outsiding or springing up. In hiring a new worker, employers stress that the individual should have manual dexterity, a desire to learn, and a real interest in the work as speed and neatness to the work are highly important.

Experience generally is not necessary to be hired as a production upholsterer in a large factory or in a mattress manufacturing firm. Whereas a few jobs require skilled workers, the majority can be taught on-the-job in as short a time as thirty days. (In mattress manufacturing, workers are mattress makers and fillers rather than upholsterers.)

Upholsterers for almost all shops need to have their own tools; however, the cost is not high. They should have shears, tack hammer, pliers, screwdrivers, tape measure, needles, and stretcher (wood handle with prongs.)

Most workers in this field are unionized. The unions having jurisdiction are: Upholsterers, Local 3; Upholsterers, Local 28; United Furniture Workers, Local 262; and Furniture Workers (branch of Carpenters), Local 3141.

(continued)

Upholsterer (cont'd.)

Since it takes three years of all-round experience, such as that in a custom shop, to learn the upholstering trade, training of lesser amount usually will not enable the person to be hired above the level of beginner. Even for a production line type job, the new employee will probably work at the beginner level until he demonstrates his ability. For a job that does not require a journeyman upholsterer, training will likely give a person an edge in being hired, but it is not essential since these employers train their own workers. Persons completing the two-year program at Alameda College (formerly at Laney) usually get jobs as production workers in large manufacturing firms. The demand for these students is strong and some are placed after as little as four months. Even those who complete the program, however, don't qualify for jobs as upholsterers in reupholstery and custom shops until after about three years in a factory job. A person must be ambitious, though, to be rotated to various positions in order to get the broad experience.

Job openings in upholstery work result more from turnover than expansion. There is moderate turnover as persons leave jobs to open their own shops and others retire or leave the field as the pay is lower than other skilled trades. Journeymen usually receive $4.00 to $4.50 an hour. The starting rate is likely to be between $2.40 and $2.80 an hour.

Training in furniture upholstery does not enable one to become an automobile upholsterer--the skills, for the most part, are not transferable.

MDTA Recommendation: Although the market is not great, a person could probably obtain employment in the upholstery field. It is doubtful he could obtain work as an upholsterer as such, but he would have opportunities for production line work. For these jobs, training would give him the edge in being hired, but good job development might be as successful in some cases for obtaining employment. One who had been trained, however, might have a better chance to be rotated on different operations and thus eventually qualify for work as upholsterer.

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California Dept. of Human Resources Development
Research and Statistics, San Francisco

Survey Area:
San Francisco-
Oakland Bay Area

AUTOMOTIVE UPHOLSTERER-TRIMMER

The job of trimmer (automotive upholsterer) was reviewed to determine if this field would provide job opportunities for persons trained in furniture upholstery. It was found that the skills are not transferable, for the most part, and one trained to do furniture upholstery could not qualify for trimmer work. If one learned sewing, this skill would be transferable, but the majority of upholsterers do not sew and the upholsterer apprenticeship training does not include sewing. Trimmers do all the cutting, sewing, repairing seats, and installation. They work on tops of cars as well as interiors.

Few job opportunities exist in automotive upholstery and some close to the field indicate that jobs are declining. Persons turn in cars for new ones, on the average, after 33 months and do not have reupholstering done; persons purchasing used cars don't usually have the interiors redone. Now most seats are made of nylon or leatherette, materials that last a long time. In addition, more and more seat covers are coming made up from the factory. Work is largely on seats that have been slashed--work that is covered by insurance--and on convertible tops.

The field is fairly small and where there used to be perhaps four or five trimmers in a shop there are now two or three. A number of shops are one-man operations or a partnership with no employees. There is a four-year apprenticeship program but it is rarely used; to be appropriate there should be a ratio of five journeymen to one apprentice. Some employers, including those with union contracts (Automotive Machinists), hire trainees. More often, however, they require journeymen. Some may recruit journeymen by advertising out of the area or hire someone who has been trained provided he can sew.

MDTA Recommendation: Training should not be given in this field since the market is declining. The automotive upholstery field should not be viewed as a source of employment for those trained as furniture upholsterers.

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California Dept. of Human Resources Development
Research and Statistics, San Francisco

Survey Area:
San Francisco-
Oakland Bay Area

CASKET TRIMMER

Casket trimmers fit and glue fabric covering the casket body, top frame and top panel. Trimmers may also attach hinges to fasten the top frame to the casket and the top panels to the frame.

Casket manufacturers vary in size from five to sixty employees, with the average firm's employment less than ten. Manufacturers are located throughout the state with no particular area of concentration noted.

Hiring is done by either direct firm contact or through the Upholsters' Union, Local No. 3. Prospective casket trimmers go through a three-year apprenticeship program. Wage rates for apprentice candidates currently start at $2.25 an hour and increase every six months, pro-rata to journeyman wages—$4.00 an hour.

Our review of the labor market for inexperienced new entrants into the casket manufacturing industry revealed both a current and projected demand for casket trimmers. Despite the static nature of the industry, current demand results from the high frequency of retirement (the average age of casket trimmers is above 50), along with the high turnover of apprentices. Casket manufacturers contend that low apprentice wages account for the high turnover of new workers—local casket trimmers' wages are the highest in the country. The higher wages paid to furniture upholsters in comparison to casket trimmers—both occupations have comparable work skills—has made it difficult to attract workers into the occupation. The reluctance of local casket manufacturers to increase timmers' wages, thereby increasing the cost of the final product, has been their fear of not being able to compete with cheaper casket imports from Arkansas and other areas.

MDTA Recommendation: At the request of the Chinatown HRD Center, several employers of casket trimmers and the union were contacted concerning the possible development of an MDTA training program. A majority of these employers had hired inexperienced persons as casket trimming apprentices recently. Although employers had no current openings, they reacted very favorably to the possibility of a training program.

At the present time, no training for casket trimmers, other than through the apprentice program, exists. Although the upholstery training given at Merritt College would be the next best substitute, two factors suggest on-the-job training to be more adequate. First, the geographically scattered demand, and second the diversity of techniques, unique to each employer.

10/70

California Dept. of Human Resources Development
Research and Statistics, San Francisco

Survey Area:
San Francisco-
Oakland Bay Area

WATCHMAKER

At the present time the job opportunities for watchmakers are poor, probably a result of current economic conditions. While few are out of work, there are hardly any calls for watchmakers--the union reports that this is the slowest they have seen the market. The reason few are on lay off is the provision in the contract that shops must reduce to a four day week--which several have done--before letting anyone go. Over the long run prospects are not encouraging--growth is not likely as increased sales of cheaper watches result in replacing rather than repairing, and watches with warranties are returned to the factory. Although the average age of watchmakers is at least 45, with a number substantially above this, many continue to work as long as they can and there is not likely to be any demand to replace those leaving the labor force.

Openings that occur are most likely to be in shopping centers. The usual pattern now is for only one, and perhaps two, to be employed by any establishment. The former centralized repair facility of one chain, for example, has dwindled to only a few workers. Since a part of the typical job is dealing with customers, good communication skills in English are essential.

MDTA Recommendation: It is not advisable to train persons in watchmaking under MDTA because of the limited labor market. Exception can be made for those who already have some background in this field (some apprentice training abroad, e.g.)

10/70

California Dept. of Human Resources Development
Research and Statistics, San Francisco

Survey Area:
San Francisco-
Oakland Bay Area

EMBALMER

Job opportunities for embalmers are minimal and in some areas may be declining. Any increases are most likely in smaller or suburban communities but these are apt to be in small family establishments. Reasons cited for fewer embalmers in central cities, in addition to some shift to the suburbs, include the hiring of funeral counselors instead of embalmers for functions not requiring licensing (the pay scale is higher for journeyman embalmers than funeral directors) and the trend toward shorter funerals and cremating. It is not likely that openings will be created by turnover as embalmers tend to stay with the same employer--one estimate of average length of time on the job is 20 years. Also, it is not expected that replacements will be hired for a number of those who retire.

The two California schools, located in San Francisco and Los Angeles, serve the Western States. One source indicated that many of the local students are sons of morticians or plan to work outside the immediate area. Job opportunities are reportedly significantly more available in Southern California than locally. In San Francisco embalmers belong to the Professional Embalmers Union #9049, which has a branch in San Diego and is organizing in Los Angeles. Some embalmers in Alameda County belong to Chauffeurs Union #923 and in San Mateo County to Garage and Service Station Employees #665.

MDTA Recommendation: Job opportunities in any community are not numerous and individuals entering the field should be prepared to conduct a statewide job search.

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Part II
DATA BANK BULLETIN

Dept. of Human Resources Development
Research & Statistics, San Francisco

September 14, 1970

THE OCCUPATIONAL DATA BANK
A COMPONENT OF AN EMPLOYMENT SERVICE OFFICE'S
LABOR MARKET INFORMATION SYSTEM

A Definition

The Data Bank is a tool for:

1) Assembling all existing information relating to job search, as well as any new information which may be collected, in one place in a field office; and

2) Organizing this information into occupational family groupings so that field office staff will have the information available in easily retrievable form when they are dealing with individual jobseekers.

Because of the nature of information stored within it, the Data Bank must change continually to be a useful resource. Consequently, the staff in the field office in which it is installed will be removing outdated information and feeding in new information as long as the Data Bank is there.

Its Purpose

The Data Bank is primarily designed to provide the staff member with the kind of information he needs to help the jobseeker plan a more productive search for work. The office's closed orders are the major source of labor market information for the Data Bank. These provide information on which companies hire persons in the jobseeker's occupation, who to see, hiring requirements, and job duties. The orders are supplemented by lists of other employers who hire in the occupation, as well as other information developed through employer contacts.

Although designed to answer questions about job search, the Data Bank's information can help field office staff advise the applicant who is not job-ready about career choice. The same orders,which allowed the staff to help the job-hunting applicant put together a list of companies to call, can give the staff member dealing with a career-choice problem an idea how many companies hire persons in the occupation the applicant shows interest in and how much training he will need to meet their minimum entrance requirements.

The Hayward Model

The Occupational Data Bank in the Hayward Employment Service Office is the backbone of its labor market information system. It is designed to provide the staff in that office with information to help the jobseekers who do not find a job through the office's information displays on current openings:

1. the orders in the Job Information Center

2. the civil service announcements

3. want-ads and information from other sources found on the "job leads" board;

or through its self-help tools for selecting employers to contact for a job:

1. the employer directory and
2. occupational directory.

Information on industry location, community facilities, and transportation facilities is also available to the public on a self-help basis. Consequently, the Data Bank was designed for use by the staff to answer fairly complex jobseeker questions.

The Occupational Data Bank, which is based upon the Western Addition Adult Opportunity Center's experience with using closed orders for labor market information, was designed by San Francisco Research & Statistics in general terms in San Francisco, then planned in detail and executed in Hayward with the aid of the Hayward office's staff. The participation and involvement of the staff was found to be invaluable for two reasons:

1) By helping to construct the Data Bank, the staff could use it more easily.

2) Research and Statistics staff was quickly able to see groupings which the staff had trouble finding or using and therefore change them.

One type of staff participation which R & S would not recommend repeating was that of having staff specialists design the Data Bank's occupational groupings. It was found that, after many years at a desk such as sales, clerical, or industrial, the specialist did not think of the jobs in that category in the same way as other staff members. Consequently, the rest of the staff would be unable to find the jobs they wanted in that grouping.

The Data Bank's design changed continually during our four months in Hayward as a result of needs which emerged in the office while we were there. The workshops held in the office proved to be a major source of suggestions. Needs expressed in the workshops included information of the following types:

Overseas jobs
Older Workers
Clerical Jobs for Men
Data Processing Occupations
Electronic Industry
Citizenship Regulations
List of employers by occupations for jobseekers use
List of employers hiring at entry level jobs (no experience) broken into categories; i.e. clerical, maintenance, production workers
Factory jobs for women
Employers hiring Spanish-speaking jobseekers
Medical hiring
Apprenticeships
Licensing
Part-time jobs for students
Arrest records (acceptance by employers)

Since these jobseeker needs could not always be satisfied through our occupational filing system, the "tickler" files were added to the Occupational Data Bank.

The Physical Arrangment of the Hayward Occupational Data Bank

All materials in Hayward's Data Bank are fed on 5" x 8" cards into trays in the tubs formerly used for the filing of work applications. On the left side of the first tub are metal dividers containing essential reference materials such as Dictionary of Occupational Titles (DOT), Volumes I and II; Standard Industrial Code book; Binders containing general apprenticeship information, and licensing information, Summary of Union Referral Practices; and a clip board for staffs to use to feed in hints on informational needs to coorindator.

The information in the Occupational Data Bank is grouped by occupation and the occupations are, in most cases, arranged in D.O.T. order. Where related occupations were found to be hard to retrieve, they were rearranged from DOT order to groupings such as medical patient-oriented, medical-clerical, and data processing.

Instead of indicating every change in DOT code, occurring in the Data Bank, the divider tabs in the Occupational Data Bank are used to group occupations into families of occupations requiring related skills. This grouping of occupations accomplishes the following:

1) it broadens the staff's conception of an individual jobseeker's labor market;
2) it orients the staff to fields of work; and
3) it facilitates the task of finding the relevant occupational grouping.

Where the occupational groupings contained large quantities of closed orders and location of the job seemed to make a difference to the jobseeker, the occupational group was subdivided into communities within the local office area.

Appendix A contains a complete listing of the occupational groupings in the Hayward Occupational Data Bank.

Materials Found Within Each Occupational Grouping in the Hayward Data Bank

If they are applicable, the following materials are to be included in each occupational grouping in the Data Bank:

1) A summary of market conditions for that occupation in the local office area.
2) Union referral information
3) Information on other referral points--LINCS, school placement offices, etc.
4) List of employers and any available employer location maps
5) Relevant Profiles or Occupational Briefs
6) Job Finder or other job search published materials
7) Entry job listings
8) Training offered locally with employer preferences if known
9) Licensing information
10) Closed orders and information on the hiring practices of employers who have not placed an order with the office--arranged by employer in alphabetic order.

Since the local office staff is used to working with color coding, the materials listed above were color-coded for easier retrieval. The color-codes are listed below:

closed orders	white
employer information	white
licensing information	salmon
union information	green
occupational summary	green
list of employers	canary
training information	blue
occupational briefs	buff or yellow

Each type of material included in an occupational grouping is described in greater detail below:

1. The Occupational Summary (on a green 5 x 8 card)
   It is a brief description of the market for the occupation in the local area.

   The Summary should include:

   1. Demand or Surplus Occupation - why?
      High or low periods? Seasonal?
   2. Finding the job - union, what union? Apply directly to employer? Newspapers? Register with DHRD?
   3. Usual requirements - experience - age - education - tests to be taken. Exceptions should be noted.
   4. Hours and wages.

   Sources of information for summaries:

   Job Orders in O.D.B.
   Unions
   Profiles for Alameda County
   Staff's professional knowledge
   Contacts to employers, unions or schools

2. Union Referral Information (green 5 x 8 card)
   The name and address of unions involved in the referral process, should be given and the referral process described.

   Sources of information:
   JIS summaries for B-1 unions
   Information obtained by phone calls to local union recorded on green paper.

3. Information on other referral points
   The name, address, and telephone number of these should be given so that the jobseeker can make an appointment. What types of jobseekers they will serve should also be noted.

   Sources of information:
   Contacts with other offices and schools

4. Lists of Employers and Employer Location Maps (on canary 8 x 10 paper)
All employers in the Local Office area hiring persons in the occupation. (For locally important occupations.)

Sources:
JIS
Employer Directory - San Francisco Research and Statistics
Occupational Directory

5. Profiles or Occupational Briefs (on buff or yellow)
These should be included to give information on the job market for the occupation in nearby counties.

Sources:
#503 and other offices
San Francisco Research & Statistics

6. Job Finders and Other Published Job Search Materials
These are included to remind the staff member to make sure the jobseeker has a copy.

Source:
San Francisco Research & Statistics

7. Entry Job Listings
A list (of employers hiring entry level workers) which can be abstracted from the closed orders.

8. Training Information (on blue)
A list of schools in the area offering training needed by persons in that occupation and what employers think of it.

Source:
School catalogs and contacts
Contacts with employers

9. Licensing Information (on salmon)
Information on which workers in the occupation must have the license, how one gets the license, and requirements.

Source:
Licensing board information
Contacts with employers

10. Closed Orders and Employer Contact Cards
These provide information on individual employer practices. An employer contact card was developed to make information gathered through telephone calls and visits more retrievable. Appendix B is a facsimile of this card.

The closed orders are fed into the Data Bank in the following way:

They are backed by white 5 x 8 cards. Reason: more easily handled. Additional information to be dated and noted on back, i.e. information obtained by a telephone call to the employer.

As Job Orders are closed, copies to be fed immediately into O.D.B.

Eliminate older duplicate copy
Record pertinent information from old order that does not appear on latest order.

The Tickler Files

The tickler files help the staff member retrieve information on job openings for specific groups of jobseekers. In some cases, they provide the staff member with lists of occupations found in industries about which he may know little. A list of the tickler files and a description of the information found within each one follows:

Veterans' Opportunities

List of Occupations where Veterans are preferred or hired:

Give Occupational Title and DOT as a cross referrence and memory jogger to staff.
This list can be obtained from employer specifications on front of Job Orders and from the referral section on back of Job Order.

List of skills acquired in service transferred to civilian occupation.

Any specific training available to veterans to enable them to transfer skills to civilian employment.

Location of Factory Jobs for Women

List of employers, their address and product.
Listed by geographical area

Clerical Jobs for Men

List of employers, their address and title of job.

Older Worker Opportunities

List of employers, their address and title of job.
Information on "40+"
Information on "Experience Unlimited" even though this not necessarily applicable to Older Workers.

Opportunities for the Spanish-Speaking

List of employers who hire the Spanish-speaking and name of the jobs they hire for.
Listed by geographical area.

Out of Area Jobs

Public Administration Recruiter, current copy

Overseas Jobs

Where to look for this information - information from 503

Agricultural Jobs

Address of Farm Labor Office

Construction Jobs

Address of BACOP tutoring service and description of service.
List of construction firms in area.
List of occupations commonly found in construction companies for which a person can apply directly.

Transportation Jobs

BART General Employment Specifications

Communications Jobs

List of employers
Entry-level job listings

Tasks Required to Set Up the Hayward Data Bank and Time Estimates

	Hayward L.O. Weeks	Research & Statistics Weeks
1. Sorting the orders into DOT order - a sort on 6 digits..................................	4	1
2. Sort alphabetically by employer within each 6 digit DOT..................................	2	1
3. Abstracting tickler information from referral action part of order. Examples: men placed in clerical jobs: women placed in factory jobs	1	1
4. Banding duplicates and eliminating them	1	1
5. Removing the backings and replacing them with 5 x 8 cards..................................	4 (clerical)	
6. Arranging the orders in DOT order into occupational groupings, developing the guide, and making 300 two-way divider tabs.................	1 (clerical)	8
7. Putting other existing information on 5 x 8 cards on folded sheets and incorporating it into the data bank..........................	1	2
Total..............	14	14

Part III

JOB BANK ANALYSIS

Availability of Data

The report, Job Bank Monthly Supplement--"Unfilled Job Openings" as specified in USTES Standardized Job Bank System, by the E. F. Shelley and Company, Inc., was produced by seven of the 14 ORC survey cities.

Selection of Data to Be Used

One month only was used for each city. The months were selected to coincide with those chosen for the analysis of the want ads or to coincide with the AMR publication. The following printouts were used:

City	Date
Dallas, Texas	August, 1971
Fresno, California	October 1971
Miami, Florida	October 1971
New Haven, Connecticut	April 1971
Paterson, New Jersey	April 1971
Rochester, New York	April 1971
Wilmington, Delaware	April 1971

Three types of data, thought to be indicative of ES activity, were selected for the analysis: new openings, filled openings (called placements in the analysis), and order age (30 to 60 days). The column headed, "Referrals," appeared promising, but was abandoned when it was discovered that it referred only to those referrals made on end-of-the-month unfilled orders rather than referrals made during the month.

Occupational Skill Levels Using the DOT

In ORC's analysis of Job Bank data, occupational codes assigned by the *Dictionary of Occupational Titles* (DOT), 3rd Ed., were used. The analysis revealed severe limitations and weaknesses in this coding system.

The lowest level of use for the DOT is as a cataloging system. A certain number is assigned to a particular job title. Even at this level problems exist. The job description that goes with the title is to be considered an "average" assessment of job duties and degree of responsibilities or skills. Any particular job may vary from this average description. The first three digits of the code break down occupations into groups that are based on the type of work done: " . . . jobs are grouped according to a combination of work field, purpose, material, product, subject matter, service, generic terms, and/or industry, as reflected in the first three digits of the code."[1] The groupings quoted above occur within these broad categories:

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[1] *Dictionary of Occupational Titles*, Vol. I, 3rd Ed., p. XVII.

DOT Code First Digit	Category
0/1	Professional, technical and managerial
2	Clerical and sales
3	Service occupations
4	Farming, fishery, forestry, and related occupations
5	Processing occupations
6	Machine trades occupations
7	Benchwork occupations
8	Structural work occupations
9	Miscellaneous occupations

The other level of use for the DOT codes is in determining the skill level required to perform the job described. The DOT asserts that the fourth, fifth, and sixth digits of the code, when taken together, can " . . . express the total level of complexity at which the job requires the worker to function."[2] The following will provide a basic description of the code meanings.

The three digits relate to the degree of complexity in relation to the factors of DATA (fourth digit), PEOPLE (fifth digit), and THINGS (sixth digit). The lower the number assigned to any of these factors, the higher the level of complexity. The range of applicable codes is 0-7 (0-6 for DATA). The number "8" is reserved for "No significant relationship." However, whenever the THINGS factor is a "1" or "2" and the PEOPLE factor is "8," a "7" is used in the fourth digit. The reason offered is that with a high level of complexity in dealing with THINGS and where there is no "significant relationship" to DATA or PEOPLE, there is an implied use of data which requires this arbitrary classification, which is not strictly in accordance with other uses of the DOT's skills hierarchy.

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[2] Ibid, p. XVIII.

One other important observation is that the occupational coding system results in a large number of occupational titles falling under the same six-digit code. Further numerical identification is provided by "suffix codes"--three additional numbers--which serve to identify specific jobs. In the absence of a nine-digit identification in the Job Bank, job titles were selected arbitrarily based on commonality.

Jobs Optional Program Quality Points System

The skill-level code used in this analysis is based on the Jobs Optional Quality Points System. In determining the suitability for OJT training under JOP, the proposed occupation and job training site are evaluated by five criteria. One of these is the DOT skill codes--the last three digits--just described. In rating the proposed training occupation, the skill code accounts for only a maximum of three points out of a total of 19 possible points. It is only one factor to be considered, and a relatively low-ranking one at that. However, we have used the DOT rating system designed for JOP since it was an already established system for evaluating jobs for federal manpower programs.

The fourth, fifth, and sixth digits are summed, and "quality points" are assigned according to this scheme:[3]

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[3] General Administrative Letter (GAL) 1411 (10/5/71), p. 8. (Also in JOP Handbook.)

DOT Rating	Quality Points
22 and above	0
20, 21	1
15 to 19	2
14 and under	3

We have used this system to provide a classification of occupations according to relative skill levels. It is by no means foolproof. It has been attacked from many sources on grounds of sexual bias in assigning codes, its impact on wage structure, and the irrelevancy of the codes with respect to training requirements. A few examples will suffice.

Remembering that the higher the number, the lower the skill level, a physicist (023.081) has a total of nine points. A carpenter foreman (860.131) has a total of nine points. Still another example is that "bus driver" computes to a three skill level while "secretary" computes to only a two level.

With these criticisms in mind, ORC has used the system only as a means of "getting a handle" on a vast array of occupational data. Whenever it is stated that "x" number of occupations have fallen within the skill quality point range, the most frequently encountered occupations falling into that group have been listed. With few exceptions, this system has served as a useful tool in accurately identifying groups of occupations.

Other Considerations

The inclusion or exclusion by the local Job Bank of certain types of orders influences the outcome of this analysis. For example, "city x's" report may show openings for "day workers," while "city y's" may not include this temporary type of job in the Job Bank printouts. Since no attempt is made to compare ES activities from one city to another, the differences between reporting systems are insignificant, so far as this analysis is concerned. However, it does cause some distortion in the findings (if we generalize about the most common occupations found in the ES system).

OVERVIEW OF ES ACTIVITIES: SEVEN CITIES

Unfilled Job Openings--Summaries of the Data

For the reports used, each type of data (new openings, filled openings, and 30 to 60 days) was summarized. The summary columns are as follows:

Total--Universe

Number of openings, total: This is the printed total on the report being used.

Total number occupations: This is the number of different six-digit DOTs listed in the report.

"75% Universe": The rest of the columns refer to that portion of the data which were analyzed. For each type of data, the orders were ranked by taking that DOT which had the most frequent number of orders (new openings, filled openings, or 30 to 60 days, as the case may be), and following it with the DOT code with the second most frequent number of openings, etc. The process continued until 75 percent of the "Total--Universe" is reached. If this 75 percent is not reached with order frequency of four or more, the process is discontinued at less than 75 percent.

Number of openings: The number of openings that have been analyzed.

Percentage of total: The percentage of the "Total--Universe" openings that have been analyzed.

Number of occupations: The number of different DOT codes encountered in the analyzed list.

Skill quality number/percent: The results of the sum of the digits method of assigning skill levels to the DOT codes. The number of openings in each class (0-3) is given and followed by the percentage that it represents of the "75% Universe--Number of Openings." These percentages do not reflect the "Total--Universe" number of openings (see Table A-III-1).

DISTRIBUTION OF OPENINGS AND PLACEMENTS

Tables A-III-2 and A-III-3 show the distributions of new openings and placements by skill level cluster (by city). They illustrate what parts of all ES activities are distributed over the top six occupations at the highest and lowest skill levels within the "75% Universe." The clerical cluster is included because its four selected occupations constitute a fairly significant portion of monthly activities but do not appear in the "3-skill" level group because of the DOT coding system. These tables clearly show that in every city, six low-skill or unskilled occupations account for disproportionate percentages of new openings and placements and that the "3-skill" level (highest skill level) and clerical clusters account for much smaller percentages of the activity.

TABLE A-III-1
Overview of ES Activities
(Seven cities)[a]

City/Date	Total--Universe		"75% Universe"										
						Skill Qualities Number/Percent							
	Number Openings Total	Total Number Occupations	Number of Openings	Percent of Total	Number of Occupations	(0)		(1)		(2)		(3)	
						Number	Percent	Number	Percent	Number	Percent	Number	Percent
Dallas-8/71		723											
New openings	7,887	639	5,615	71.2%	89	1,852	33.0%	1,026	18.3%	2,083	37.1%	654	11.6%
Filled openings	2,832	639	1,888	66.7	67	767	40.6	329	17.4	584	30.9	208	11.0
30 to 60 days	235	41	180	76.6	10	0	0.0	0	0.0	168	93.3	12	6.7
Fresno-10/71		236											
New openings	1,254	193	937	74.7	27	745	79.5	81	8.6	99	10.6	12	1.3
Filled openings	883	139	666	75.4	15	601	90.2	27	4.1	19	2.9	19	2.9
30 to 60 days	54	26	25	46.3	4	13	52.0	0	0.0	12	48.0	0	0.0
Miami-10/71		525											
New openings	4,547[b]	441	3,465	76.2	70	1,554	44.8	378	10.9	1,239	35.8	294	8.5
Filled openings	1,570	221	1,214	77.3	39	765	63.0	55	4.5	347	28.6	47	3.9
30 to 60 days	108	55	32	29.6	6	0	0.0	5	15.6	19	59.4	8	25.0
New Haven-4/71		318											
New openings	960	231	707	73.6	61	353	49.9	64	9.1	198	28.0	92	13.0
Filled openings	350	81	253	72.3	13	225	88.9	10	4.0	13	5.1	5	2.0
30 to 60 days	112	46	62	55.4	8	35	56.5	0	0.0	14	22.6	13	21.0
Paterson-4/71		479											
New openings	2,059	353	1,535	74.6	75	536	34.9	329	21.4	583	38.0	87	5.7
Filled openings	612	132	468	76.5	31	183	39.1	175	37.4	106	22.6	4	0.9
30 to 60 days	276	101	168	60.9	13	35	20.8	42	25.0	85	50.6	6	3.6
Rochester-4/71		537											
New openings	1,100	285	788	71.6	74	255	32.4	130	16.5	210	26.6	193	24.5
Filled openings	361	147	199	55.3	29	94	47.2	43	21.6	46	23.1	16	8.0
30 to 60 days	234	92	127	54.3	15	42	33.1	0	0.0	14	11.0	71	55.9
Wilmington-4/71		285				292							
New openings	686	171	512	74.6	55	292	57.0[c]	42	8.2	117	22.9	61	11.9
Filled openings	248	98	136	54.8	13	128	94.1[c]	4	2.9	4	2.9	0	0.0
30 to 60 days	434	79	329	75.8	12	215	65.3[c]	0	0.0	77	23.4	37	11.2

[a] Data collected by Olympus Research Corporation.

[b] Printed total = 4,581

[c] This contains 200 openings for "assemblers-auto." These openings should not be taken as an indication of an occupation that had been hard to fill, rather it is a peculiar combination of Job Bank reporting methods and the type of employer order.

TABLE A-III-2

Distribution of New Openings by Skill-Level Cluster
(By city) [a,b]

City	3-Skill-Level Cluster	Clerical Cluster	0-Skill-Level Cluster	Total
A (7,887 new openings in 639 occupations)				
Percentage of new openings	6.6%	5.8%	16.9%	29.3%
Number of occupations in cluster	6	4	6	16
Names of occupations in cluster	Cook, auto mechanic, carpenter, bus driver, building maintenance man, short-order cook	Clerk-typist, secretary, general office clerk, stenographer	Busboy/waiter, porter, kitchen helper, maid (hotel and restaurant) warehouseman, nurse's aid/orderly	
B (1,254 new openings in 193 occupations)				
Percentage of new openings	1.0%	2.6%	54.3%	57.9%
Number of occupations in cluster	1	3	6	10
Names of occupations in cluster	Auto mechanic	General office clerk, secretary, clerk-typist	Busboy/waiter, porter, kitchen helper, material handler, phone book deliveryman, domestic day worker	

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[a] Data collected by Olympus Research Corporation.

[b] Percentages shown represent percentages of the "100% Universe."

TABLE A-III-2 (cont.)

City	3-Skill-Level Cluster	Clerical Cluster	0-Skill-Level Cluster	Total
C (4,554 new openings in 441 occupations)				
Percentage of new openings	5.3%	5.8%	24.3%	35.4%
Number of occupations in cluster	6	3	6	15
Names of occupations in cluster	Cook, auto mechanic, building maintenance man, short-order cook, cabinet maker, machinist	Secretary, general office clerk, clerk-typist	Busboy/waiter, porter, maid (hotel and restaurant), material handler, domestic day worker, yardman	
D (960 new openings in 231 occupations)				
Percentage of new openings	7.0%	4.1%	26.3%	37.4%
Number of occupations in cluster	6	3	6	15
Names of occupations in cluster	Auto mechanic, carpenter, short-order cook, machinist, lineman, cosmetologist	Clerk-typist, general office clerk, secretary	Busboy/waiter, kitchen helper, warehouseman, material handler, domestic day worker, maid (general)	
E (2,059 new openings in 353 occupations)				
Percentage of new openings	3.9%	6.6%	19.4%	29.9%
Number of occupations in cluster	6	3	6	15
Names of occupations in cluster	Auto mechanic, carpenter, building maintenance man, machinist, maintenance mechanic, factory maintenance man	Clerk-typist, general office clerk, secretary	Busboy/waiter, porter, warehouseman, material handler, hand packager, rubber plant laborer	

TABLE A-III-2 (cont.)

City	3-Skill-Level Cluster	Clerical Cluster	0-Skill-Level Cluster	Total
F (1,100 new openings in 285 occupations)				
Percentage of new openings	10.3%	5.6%	17.4%	35.8%
Number of occupations in cluster	6	3	6	15
Names of occupations in cluster	Auto mechanic, machinist, high school teacher, mechanical engineer, pipefitter/plumber, electrician	Clerk-typist, secretary, general office clerk	Busboy/waiter, kitchen helper, porter, maid (hotel and restaurant), material handler, nurse's aide/orderly	
G (686 new openings in 171 occupations)				
Percentage of new openings	7.4%	3.6%	24.8%	33.3%
Number of occupations in cluster	6	3	6	15
Names of occupations in cluster	Auto mechanic, carpenter, building maintenance man, short-order cook, bricklayer, sheetmetal worker	General office clerk, secretary, clerk-typist	Porter, kitchen helper, warehouseman, material handler, factory helper, construction laborer	

TABLE A-III-3

Distribution of Placements
(By skill-level cluster)[a]

City	3-Skill-Level Cluster	Clerical Cluster	0-Skill-Level Cluster	Total
A (2,832 filled openings in 395 occupations)				
Percentage of filled openings	5.5%	3.2%	18.7%	27.4%
Number of occupations in cluster	6	3	6	15
Name of occupations in cluster	Cook, carpenter, auto mechanic, electrician, sheetmetal machine operator, short-order cook	Clerk-typist, secretary, general office clerk	Porter, busboy/waiter, kitchen helper, maid (hotel and restaurant), warehouseman, nurse's aide/orderly	
B (883 filled openings in 139 occupations)				
Percentage of filled openings	2.1%	0.0%	65.6%	67.7%
Number of occupations in cluster	2	0	6	8
Name of occupations in cluster	Auto mechanic, auto service station mechanic	None	Porter, busboy/waiter, kitchen helper, phone book deliveryman, domestic day worker	

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[a] Data collected by Olympus Research Corporation.

TABLE A-III-3 (cont.)

City	3-Skill-Level Cluster	Clerical Cluster	0-Skill-Level Cluster	Total
C (1,570 filled openings in 221 occupations)				
Percentage of filled openings	3.0%	4.0%	39.9%	40.6%
Number of occupations in cluster	4	3	6	13
Name of occupations in cluster	Cook, short-order cook, building maintenance man, caseworker	Clerk-typist, secretary, general office clerk	Porter, maid (hotel and restaurant), material handler, domestic day worker, yardman, maid (general)	
D (350 filled openings in 81 occupations)				
Percentage of filled openings	1.4%	0.0%	62.9%	64.3%
Number of occupations in cluster	1	0	6	8
Name of occupations in cluster	Auto mechanic	None	Busboy/waiter, kitchen helper, warehouseman, material handler, domestic day worker, nursery worker	
E (612 filled openings in 132 occupations)				
Percentage of filled openings	0.7%	1.3%	26.7%	28.7%
Number of occupations in cluster	1	2	6	9
Name of occupations in cluster	Auto body repair	Clerk-typist, secretary, general office clerk	Porter, busboy/waiter, kitchen helper, material handler, hand packager, tin can laborer	

TABLE A-III-3 (cont.)

City	3-Skill-Level Cluster	Clerical Cluster	0-Skill-Level Cluster	Total
F (360 filled openings in 147 occupations)				
Percentage of filled openings	4.5%	4.4%	18.6%	27.5%
Number of occupations in cluster	3	2	6	11
Name of occupations in cluster	Auto mechanic, machinist, mechanical engineer	Clerk-typist, secretary	Porter, busboy/waiter, maid (hotel and restaurant), warehouseman, nurse's aide/orderly, material handler	
G (248 filled openings in 98 occupations)				
Percentage of filled openings	0.0%	0.0%	38.6%	38.6%
Number of occupations in cluster	0	0	6	6
Name of occupations in cluster	None	None	Porter, kitchen helper, material handler, construction laborer, factory helper, landscape laborer	

An explanation of the column headings is as follows:

City: City code name, followed by the total number of transactions and occupations making up the "100% Universe."

The 3-Skill Level: This group is made up of the six largest occupations (in terms of transactions) in the "75% Universe" at this skill level. (If the "75% Universe" had less than six occupations at the "3-skill" level, then all the "3-skill" level occupations are represented in this cluster.)

Clerical Cluster: This cluster is made up of any combination of four selected clerical occupations--secretary, stenographer, clerk-typist, and general office clerk--that appear in the "75% Universe."

The 0-Skill Level: This group is made up of the six largest occupations in the "75% Universe" at the "0-skill" level (lowest skills).

Part IV

USE OF JOLT JOB VACANCY INFORMATION TO INDICATE SHORTAGE OCCUPATIONS IN MANUFACTURING

INTRODUCTION

The intent of this analysis is to try out techniques for deriving information about shortage occupations from job vacancy occupational data.

The goal of the analysis is to find a suitable starting point for exploring possible shortage occupations. This involves:

(1) Finding a working definition for shortage occupations

(2) Reducing the data to a number of occupations that is manageable for an in-depth analysis

(3) Considering only those occupations which are outside the range of the existing information sources

The method is to construct a list of long-term job vacancies, by occupation. When such lists for a particular city are compared, a table indicating recurring long-term vacancies is derived. This table is used as the working definition of possible shortage occupations; i.e., occupations in which there have been recurring long-term vacancies, thereby satisfying the first goal. This also serves to limit the number of occupations to a manageable number, thus meeting the requirements of the second goal. Of course, the outcome of the in-depth look at occupations eventually determines whether they are legitimate "unmet employer needs." The third goal is to find a means for limiting JOLT data to additional information. The existing information source is assumed to be ES transactions. This is not the only source of occupational information, but it is the best single source of documented activity in the job market.

THE JOB VACANCY DATA

In the news release issued by DOL to announce the first job vacancy report, the range of possible uses for this type of data was given. Mentioned were its relationship to other labor market information and its ultimate intention ". . . to help workers find jobs faster and aid in directing training efforts toward shortage occupations."[1] It is the second use of the information provided by the job vacancy data (hereafter referred to as "JOLT data") that is being assessed here.

In providing ORC with the occupational data on job vacancies, BLS gave fair warning that, at this stage, the information has not been validated. While the overall vacancy statistics may be relatively error-free, the same cannot be said for the occupational detail. In performing the analysis of these data, we found apparent errors, some of which were corrected by contacting the state agency that provided BLS with the occupational summaries. The existence of these errors suggests that it is possible that other errors have gone undetected and therefore may have led to false conclusions. Since JOLT data are intended to be an important addition to the information available to planners of manpower training, the analysis of these data, possible errors included, has been undertaken.

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[1] U.S. Department of Labor, "News" (July 30, 1970), No. 11-355, p. 1.

The following discussion is taken from the program description of the job vacancy survey which was attached to the news release containing the first report of the data.

Job vacancies and establishment employment figures are reported by means of a monthly "shuttle" questionnaire sent by the employer to the state employment security agency. The current job vacancies are reported as of the close of the last business day of the survey month. Such a vacancy is defined as "a vacant job that is immediately available for filling, and for which the firm is actively trying to find or recruit a worker from outside the firm." These jobs could be part time as well as full time, temporary as well as permanent. The employers' job titles are assigned Dictionary of Occupational Titles (DOT) codes by the state agency. This agency also determines if a job's wage rate is below the prevailing rates for that area. The survey area is almost always the SMSA.

The definition of "actively trying to find or recruit" is that "the establishment is engaged in current efforts to fill the job vacancies by means of orders listed with public or private employment agencies and school placement offices; notification of labor unions and professional organizations; 'help wanted' advertising (newspapers, posted notices, etc.); recruitment programs, and interview and selection of applicants." The concept "long-term job vacancies" means that the current vacancies have been unfilled for 30 or more days continuously.

In the JOLT survey a sampling procedure is used for reasons of cost and time efficiency. Large firms are sampled 100 percent; for smaller firms, the smaller the size class of that firm, the smaller the proportion sampled. The size of the overall sample in relation to total employment in manufacturing is given in Table A-IV-1. The data as submitted by the state to BLS are reported with subtotals that designate the major groupings given in Table A-IV-1. The type of reports received by BLS varied in the degree of detailed occupational information shown by DOT code. In some cases occupations were listed by their four-digit DOT codes. In other cases only the "98" codes were given; this will be referred to as the "12-way breakdown" of occupations.

TABLE A-IV-1

Approximate Size and Coverage of BLS Job Vacancy--Labor Turnover Sample in Manufacturing

Area	Month of Reference	Employees in Sample	Percentage of Employment in Manufacturing
Dallas	July 1971	33,900	24
Miami[a]	August 1971	24,600	32
Milwaukee[a]	March 1971	152,200	80
New Orleans	July 1971	31,900	59
St. Louis[a]	April 1971	158,200	70
Salt Lake City[a]	April 1971	20,000	66

[a] Cities for which occupational data were obtained.

Source: Bureau of Labor Statistics.

TABLE A-IV-2

JOLT--Quarterly Report on Current Job Opportunities
(By occupational group codes)

"98" Code	Name of Group	Leading Digits of DOT Codes
9800[a]	Total--all occupations	
9810	Professional, technical, and managerial	0, 1
9821	Clerical	20-24
9825	Sales	25-29
9831	Service (except domestic)	31-38
9850	Processing	5
9860	Machine trades	6
9870	Benchwork	7
9880	Structural	8
9891	Motor freight and other transportation	90,91
9894	Packaging and material handling	92
9897	Other miscellaneous occupations	93-97
9940	Occupations (not elsewhere classified [including DOT 4's])	
9999	Occupations not reported	

[a] The sum of all codes 9810-999 should add up to 9800's total.

Source: Information provided by Bureau of Labor Statistics (by special request).

The major factor limiting the use of these data is that JOLT reports identify an occupation by only four digits. While in most cases four-digit job titles are less revealing than job titles derived from six-digit codes, there are certain four-digit codes that do provide clues as to the work functions involved in the vacancies.

It is impossible to determine the degree of completeness of the vacancies reported. Ray Konstant of BLS has indicated that some large companies are not willing to furnish the occupational breakdowns of vacancies. In addition, higher level job vacancies tend to be underreported. The general impression obtained from scanning the JOLT data is that there is a relatively narrow range of occupations in which vacancies are found. This could be due to the four-digit reporting method which would limit the individual occupational titles reported, and/or it may be due to the unwillingness of employers to furnish detailed occupational information.

Although the JOLT survey is limited to the manufacturing sector, in form provided to BLS by the states, there appears to be survey material relating to the medical service industry. Presumably, the nonmanufacturing vacancies would not be included in the quarterly report by occupation, but such occupations as medical technician (078.381) appear regularly. If one assumes that the survey results have been compiled and reported correctly, then the manufacturing sector has had medical technician vacancies.

It should be noted that because of the JOLT sampling procedure for smaller size firms, the variety of job vacancies resulting from variations in firms of the same industrial classification may not be fully reflected in JOLT data.

PLANNING BASED ON JOLT VACANCY DATA

It would seem that certain areas of high employer demand, such as in the clerical field, would be known without conducting a survey of employers. Certainly "help wanted" ads and public employment service listings of job orders would reflect many of the occupations for which there is a relatively persistent demand.

The pertinent questions to be asked in considering JOLT data are:

- What additional information can be gained from JOLT data?
- Which of this information is valuable for planners of manpower training programs?

The first requisite for gaining information from JOLT data is that the job vacancy be defined within a fairly narrow occupational range. Clearly, the data as reported by four-digit codes are of limited value. However, at the state or local level, where the most productive use of these data could be made, the actual returns from employers are available. These returns usually include the employer's job title as well as the name and type of employer reporting the openings.

The next requisite is that the range of occupations be broader than those which customarily show up in existing channels of job vacancy information, such as ES or the newspapers. A further consideration is whether the total number of vacancies within an occupation can be quantified percisely by means of JOLT.

To be of value in planning institutional training programs, the occupations identified must be suitable for training. If, for example, the additional knowledge obtained through JOLT surveys relates only to occupations in the professional or managerial categories, then it would have a little or no value to the planners of MDTA manpower programs.

The timeliness of the information is another factor which may have an effect on the usefulness of JOLT data as a planning tool. The JOLT survey asks for "openings with future starting dates." However, there is no definite time period assigned to this future date. Presumably, because there is a current opening with a *future* starting date, the opening exists for recruiting purposes and will become a job slot in the relatively near future. JOLT data were not designed to be a long-range predictive device for occupational demand.

The record of *past* openings provided by this type of data can be a valuable tool for planning, by identifying occupations that have been in continuous demand, particularly those in which there is unmet demand; i.e., the long-term openings.

Based on the above considerations, this analysis of JOLT information will address itself to the quality of JOLT data and the *additional* information that JOLT data reveal.

APPROACHES TO UTILIZING THE DATA

Total Manufacturing Job Vacancies

These data are not a source of occupational information. However, comparison to the number of ES job orders on the same day presumably would yield a gross measure of the ES share of the market for the manufacturing sector. Unfortunately, the small relative size of manufacturing employment for the ORC survey cities that had JOLT occupational data (as shown in Table A-IV-3) and the fact that there is no occupational identification make such a comparison incomplete as an assessment of total ES operations.

TABLE A-IV-3

The Ratio of Manufacturing to Total Nonagricultural
Wage and Salary Employment
(Annal averages, 1970)

City	Manufacturing	Total	Manufacturing/Total
Milwaukee	203,900	570,300	36%
St. Louis	274,300	898,800	31%
Miami	77,400	504,700	15%
Salt Lake City	29,700	192,000	15%

Source: Bureau of Labor Statistics, Employment and Earnings, States and Areas, 1939-1970, bulletin No. 1370-8.

BLS has performed a survey of this nature for February 1971 in 10 areas. Its results showed that the number of ES Job Bank openings amounted to 31 percent of the JOLT vacancies on the same day, with a range of 22 to 64 percent being reported.

Occupational Analysis of JOLT Vacancies

The following tallies will show, for manufacturing:

- Current vacancies ordered by most frequently appearing occupations*
- Long-term vacancies ordered by most frequently appearing occupations*
- Recurring long-term vacancies

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*In order to make this analysis concise, we show only those occupations representing the most frequent listings (top 75 percent), and no order less than four will be considered.

The list of occupations that are current vacancies and their skill level will indicate the type and quality of occupations that are in demand. (Of course, only those occupations that had vacancies on the survey date will appear.)

The list of occupations that have had long-term vacancies and the skill level for those vacancies will indicate the type and quality of employer needs that have been unmet more than 30 days. The listing of recurring long-term openings will indicate unmet employer needs that have persisted.

Occupational Analysis of JOLT and Job Order Information

The comparison of the JOLT and the ES Job Bank data for the same point in time can be made on the factors listed in the "Occupational Analysis of JOLT Vacancies." Such a comparison will indicate the additional occupational information provided by the JOLT data. Each of the four cities presented a different situation for making a complete analysis of the JOLT data since different types and qualities of data were obtained. Table A-IV-4 summarizes the data used.

TABLE A-IV-4

Types of Data Available
(By city)[a]

Data	Miami	Milwaukee	St. Louis	Salt Lake City
BLS 12-Way Occupational Groupings		X		X
BLS Four-or Six-Digit DOT Listings	X		X	
State or Local List of Vacancies	X	X		
Job Order Information	X		X	

[a] Data collected by Olympus Research Corporation.

ANALYSIS OF THE DATA

Total Manufacturing Job Openings

There were severe difficulties in comparing reports of ES activities with JOLT data. Two comparisons were made of ES open job orders in manufacturing with JOLT total current vacancies for that same industry sector. In both cases the number of ES open orders exceeded the number of vacancies reported, a reversal of the expected outcome (see Table A-IV-5).

TABLE A-IV-5

Comparison of the Number of Total Current Vacancies with Open Job Orders in Manufacturing[a, b]

City	Vacancies	Open Orders
Miami	312	428
St. Louis	486	569

[a] Data collected by Olympus Research Corporation.

[b] For Miami the vacancies were estimated, using the employment data and vacancy rate for April 1971 given in the Quarterly Area Manpower Review, July 1971, Miami, Florida, p. 12, Tables I and VIII. The job orders were an actual count of orders in manufacturing listed on April 29, 1971. For St. Louis the November vacancy report, by occupation, was compared with job order listing for November 26, 1971.

Since the JOLT survey relies on a sampling procedure, it is possible that the variation is due, in part, to the particular sample chosen. The overall sample in Miami was 32 percent and in St. Louis, 70 percent of the total manufacturing employment. Of course, for smaller size firms the proportion sampled was even less.

A second reason may be the use of a strict meaning of "vacancy" used by JOLT: immediately available job slots for which companies are actively trying to recruit workers.[2] This could cause the JOLT count to be lower, because Job Bank may include orders employers do not intend to fill immediately. Employers may be searching for the best applicant, but not be pressed to immediately fill openings. Or the orders may be standing orders in which the number of openings listed may not correspond to the number of actual vacancies. It may be the employer's way of keeping up with his expected turnover, and/or he may be building his file of applicants. In addition, there will always be some orders that have not been verified as "closed." Also, Job Bank may have orders for locations outside the SMSA.

A third reason for fewer JOLT openings may be that the JOLT questionnaires are not conscientiously filled out by some employers, thus understating the number of vacancies that exist in firms.

In light of these difficulties, an evaluation of ES share of the market would not appear to be possible, using these JOLT data. To the extent that the above-mentioned discrepancies can be minimized, it would be possible to make such an evaluation. However, when the Job Bank listings exceed the number of JOLT vacancies, this clearly is not possible. The analysis of the gross ES share of the market must also take into account that at the present time, JOLT data are available only for the manufacturing sector, which constitutes only 15 percent of the total employment in the Miami SMSA and 31 percent of the employment in St. Louis.

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[2] Emphasis is ours.

Occupational Analysis of JOLT Data

Three vacancy reports, one each in three different cities, were analyzed in terms of their current and long-term vacancies (see Tables A-IV-6 through A-IV-11). These particular reports were selected because of their availability and usefulness in making the comparisons discussed in the next section.

The most frequently encountered "current vacancies" are of interest when compared to long-term vacancies of the same date. Occupations comprising the major portion of current vacancies and not rated as "long-term vacancies" offer strong indication of being "high turnover" jobs. In all three cities, clerical occupations showed up in the lists of most frequently occurring current vacancies, but they were not in the top 75 percent of long-term vacancies. The implication is that these are "frictional vacancies," the result of a temporary mismatching of jobs and applicants.[3] In the absence of turnover rates for these occupations, no precise determination can be made about their level of turnover relative to other occupations. However, common knowledge indicates that clerical occupations are generally high turnover. The JOLT data, in this case, tend to support this contention. In addition, the data indicate that most documented employer needs have been satisfied by the existing supply of workers with clerical skills.

In the absence of specific knowledge about the job vacancies, the fourth digit of the DOT code can be used as a rough indicator of the skill level required to perform jobs: the lower the value of this digit, the higher the skill level.[4]

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[3] Raymond A. Konstant and Irvin F. O. Wingeard, "Analysis and Use of Job Vacancy Statistics," Monthly Labor Review (August 1968), Part I, p. 27.

[4] The use of the DOT code in making skill-level determinations has been the subject of justified criticism.

TABLE A-IV-6

JOLT Total Current Vacancies--Milwaukee (November 1971)[a]

Occupation	Number of Vacancies
Registered nurse	100
Licensed practical nurse	38
Assembly, production, small parts	26
Intermediate clerk and clerk-typist	20
Sewing machine operator	20
Sales clerk	18
Arc and gas-shielded welder	17
Screw machine set-up operator, automatic	16
Secretary	15
Mechanical engineering technician	13
Foreman, metal products	12
Heavy metal fabricating helpers and laborers	12
Drill press operators, single spindle	12
Entry and routine clerks and clerk-typists	10
Industrial engineer	10
Accounting clerk	9
Charwomen and industrial maids	9
Tool-and-die makers	9
Accountants	8
Medical technicians (all specializations)	8
Grinder/chipper	7
Nurse's aide	7
Waiters and waitresses	7
Chemical engineer	6
File clerks (junior and senior)	6
Lineman (electric power)	6
Fabricating machine operator	6
Packaging occupations	6
Sales manager (industrial)	6
Stenographer	6
Stock clerk and related	6
Turret lathe set-up operator	6
Welder/fitter (top skill)	6
Occupations listed	463[b]
TOTAL current vacancies	572

[a] Data collected by Olympus Research Corporation.

[b] This number = 81 percent of "Total current vacancies."

TABLE A-IV-7

JOLT Long-Term Vacancies--Milwaukee (November 1971)[a]

Occupation	Number of Vacancies
Registered nurse	80
Licensed practical nurse	26
Screw machine set-up operator, automatic	18
Heavy metal fabricating	10
Sewing Machine operator	10
Foreman, metal products	8
Drill press operator, single spindle	7
Chemical engineer	6
Tool-and-die maker	6
Industrial engineer	5
Occupations listed	176[b]
TOTAL long-term vacancies	240

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[a] Data collected by Olympus Research Corporation.

[b] This number = 72 percent of "Total long-term vacancies."

TABLE A-IV-8

JOLT Total Current Vacancies--Miami (May 1971)[a]

DOT Code	Occupational Title	Number of Vacancies
521.8	Food processing occupations	45
739.8	Production worker	41
827.8	Assembly, installation, and repair of large household appliances	17
709.8	Fabrication, assembly, and repair of metal products	16
706.8	Metal assemblers	14
381.8	Porter	11
219.4	Accounting clerks	10
750.8	Fabrication and repair of tires	10
078.381	Medical lab assistant	7
292.3	Salesman-driver	6
209.388.022	Clerk-typist	5
929.8	Packager/material handler	5
	Occupations listed	187[b]
	TOTAL current vacancies	363
	Unclassified vacancies	125
	TOTAL classified vacancies	238

[a] Data collected by Olympus Research Corporation.

[b] This number = 97 percent of "Total classified vacancies."

TABLE A-IV-9

JOLT Long-Term Vacancies--Miami (May 1971)[a]

DOT Code	Occupational Title	Number of Vacancies
739.8	Production worker	18
078.381	X-ray and lab technician	5
929.8	Floor girl; warehouseman	5
292.3	Route salesman-driver	3
950.7	Stationary engineer	3
	Occupations listed	34[b]
	TOTAL long-term vacancies	100
	Unclassified vacancies	58
	TOTAL classified vacancies	42

[a] Data collected by Olympus Research Corporation.

[b] This number = 81 percent of "Total classified vacancies."

TABLE A-IV-10

JOLT Total Current Vacancies--St. Louis (November 1971)[a]

DOT Code	Occupational Title	Number of Vacancies
787.7	Sewing machine operator	80
002.0	Engineer (not elsewhere classified)	25
003.0	Electrical engineer	20
616.3	Fabricating machine operator	20
213.5	Keypunch operator	18
169.1	Administrative assistant	17
209.3	Clerk, various	13
020.1	Mathematician (general title)	11
141.0	Commercial artist	11
007.0	Mechanical engineer	10
201.3	Secretary	8
012.1	Industrial engineer	7
539.8	Wet machine cutterman	6
621.3	Aircraft mechanics and repairman	6
202.3	Stenographer	5
219.3	Clerk, general office	5
280.2	Aircraft salesman	5
160.1	Accountant	4
199.3	Scientific helper	4
223.3	Stock clerk	4
231.5	Mail clerk	4
763.8	Furniture assembler	4
920.8	Packager-machine/hand	4
	Occupations listed	291[b]
	TOTAL current vacancies	486
	Unclassified vacancies	147
	TOTAL classified vacancies	339

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[a] Data collected by Olympus Research Corporation.

[b] This number = 86 percent of "Total classified vacancies."

TABLE A-IV-11

JOLT Long-Term Vacancies--St. Louis
(November 1971)[a]

DOT Code	Occupational Title	Number of Vacancies
787.7	Sewing machine operator	24
169.1	Administrative assistant	16
002.0	Engineer (not elsewhere classified)	14
141.0	Commercial artist	11
020.1	Mathematician (general title)	9
616.3	Fabricating machine operator	9
003.0	Electrical engineer	6
621.3	Aircraft mechanics and repairman	6
280.2	Aircraft salesman	5
012.1	Industrial engineer	4
199.3	Scientific helper	4
	Occupations listed	108[b]
	TOTAL long-term vacancies	169
	Unclassified vacancies	51
	TOTAL classified vacancies	118

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[a] Data collected by Olympus Research Corporation.

[b] This number = 92 percent of "Total classified vacancies."

The general impression gained from scanning the lists is that low skill-level occupations, appearing on current lists, do not show up on long-term vacancy lists. The high turnover and low-skill occupations form an arena of job opportunities not necessarily associated with shortages of qualified workers.

"The very factor which makes the data (job vacancies) valuable as an economic indicator--their inherent sensitivity to changes in the economic climate--also makes them subject to wide fluctuations."[5] In the May 1971 vacancy report for Miami there are 41 current and 18 long-term openings for "production worker"--which serves to point out the variability of current vacancies. For the seven quarters for which data are available in Miami, there has never been another quarter in which this DOT code has appeared. This, therefore, is a highly variable situation in which the demand appeared only momentarily.

If the long-term vacancies are taken as an indicator of unmet demand, the production worker example shows that an additional factor should be considered for manpower planning purposes: persistence of unmet demand. In Tables A-IV-12 and A-IV-13 all available reports for two cities were taken and any occupation that appeared as a long-term opening in more than one report for that city has been listed.

These data, however, should be read with caution. The use of the four-digit DOT code may indicate an area of persistent unmet demand when, in fact, there is more than one occupation being included in that code. However, at the state or local level, where the specific job title can be determined, a manpower

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[5] Konstant and Wingeard, op. cit., August 13, 1968, p. 2.

TABLE A-IV-12

JOLT Long-Term Vacancies Appearing More than Once (Miami)[a]

DOT	Occupational Title	Month/Year 2/70	5/70	8/70	11/70	2/71	5/71	8/71
012.1	Industrial engineer	1				4		
020.188	Programmer		2	4				1
078.2	Medical technician	8				7		
078.381	Medical lab assistant				10		5	
132.0	Writers and editors	2	2	2	2	1	2	2
160.1	Accountant		2	1	2		2	3
201.3	Secretary				2			16
209.388	Clerk-typist	2				2		6
222.3	Receiving clerk	3						19
223.3	Stock clerks			4				19
258.3	Ad salesman	2	3	3	4	4		3
291.8	Peddler			1	1			
292.1	Route man	2				1		
292.3	Salesman-driver	4	4				3	
529.8	Food processing, tobacco	3	5					
600.2	Machinist	4	4			2		
620.884	Auto mechanic	3		3	3			
638.2	Machine installation and repair	2	3	4	5			7
786.7	Sewing machine operator		93	86	80			
804.2	Sheetmetal worker		8	6				
813.3	Welder set-up man		2	4				
829.2	Installation and repair of electrical products		4		2			3
899.2	Maintenance man-factory			2	2			
905.8	Heavy truck driver		3	2		13		
906.8	Light truck driver	4						6
929.8	Material handler			2	4	2	5	
950.3	Stationary engineer					3	3	3

[a] Data collected by Olympus Research Corporation.

TABLE A-IV-13

JOLT Vacancies--Long-Term Openings Appearing More than Once (St. Louis)[a]

DOT	Occupational Title	Month/Year 5/70	11/70	5/71	11/71
002.0	Engineer (NEC)	83	40	4	14
003.0	Electrical engineer	11	15		6
003.1	Electronic technician	8	22	1	
007.0	Mechanical engineer	15			2
012.0	Safety engineer	2		1	
012.1	Industrial engineer	41		1	4
020.1	Mathematician	9	2	2	9
160.1	Accountant	9		6	
162.1	Purchasing management occupations	2	6		
169.1	Administrative occupations	8		13	16
199.3	Scientific helper	1			4
201.3	Secretary	16		1	1
219.3	Clerk, general office	1			1
223.3	Stock clerk	1			2
280.2	Aircraft salesman	3		5	5
372.8	Guard/watchman	2			1
602.2	Auto mechanic	7		2	
621.3	Assembler, aircraft power plant	12		23	6
787.7	Sewing maching operator	27	12	48	24

[a] Data collected by Olympus Research Corporation.

training planner could make use of this type of data. Armed with the job titles, the pattern of vacancies, and local information about the job opportunities in those occupations, he could make training decisions based on actual labor market conditions indicating occupational opportunities. Whether or not he has been provided with additional information will be taken up in the next section.

Occupational Analysis of JOLT and Job Order Information

One existing source of employer job vacancy information is the job order activity of ES. It is assumed that these orders represent the share of the market that ES has carved out for itself. It is further assumed that ES has not captured the entire market. Therefore, job vacancy information based on ES order activity may be incomplete. The JOLT survey, which is based on a representative sampling of employers in manufacturing, may be a source of additional information.

As noted previously, not all job orders represent job vacancies as defined by JOLT. However, by examining only those occupations that appear as additional occupations in JOLT data, the nonvacancies included in ES job orders should not present any difficulties for this analysis. The data comparisons are limited to the long-term vacancies and openings, for reasons discussed in the previous section.

Appropriate data were available for two cities, Miami and St. Louis. In the case of Miami, May 1971 JOLT long-term vacancies were compared with Job Bank openings one month earlier (April 29, 1971). By definition, all JOLT vacancies had been current vacancies at the time that the April job openings were listed. The JOLT vacancies considered are found in Table A-IV-9. Of the five occupations that comprised 81 percent of the classified JOLT long-term vacancies, four had been listed in the Job Bank book one month earlier. Of the four, one had been in nonmanufacturing, and two had been open orders in both manufacturing and nonmanufacturing.

In St. Louis, the November 1971 JOLT vacancies were compared with the job order book of November 26, 1971. In limiting the analysis to the most frequently listed occupations, we counted only those with four or more vacancies. Similarly, job orders that had been open prior to October 27, 1971 (30 days or more) were counted only if there were seven or more in an occupation. Of the 11 occupations with long-term vacancies, five were job orders of 30 days or more: electrical engineer, engineer (NEC), industrial engineer, programmer, and sewing machine operator.

In taking the analysis one step further, we compared those occupations not found among ES job orders with the list of persistent long-term vacancies in Tables A-IV-12 and A-IV-13. In Miami, stationary engineer had appeared as a long-term vacancy in February and May 1971. In St. Louis, the "administrative occupations," aircraft salesmen and aircraft power plant assembler occupational areas, had shown up on the May and November 1971 long-term vacancy lists. The implication for manpower training would be to consider these occupations as "new" possibilities. This, of course, is "new" information about occupations that have exhibited unmet demand for two successive JOLT reports. However, at this stage, only a possibility for training has been identified. Whether or not these occupations would be suitable for training would be a matter of judgment for people associated with that labor market. Some of the relevant questions to be asked would be:

- Is this an unmet demand caused by conditions that are likely to persist, or is it a temporary imbalance?
- Are the particular vacancies with desirable employers and at or above the going wage rate?
- Is there unrestricted entry into this occupation?
- Is there an available supply of qualified workers?
- Is it a training possibility given the administrative, legislative, and financial constraints on the local training program?

LIMITATION OF DOT CODES

The effect of identifying occupations by the four-digit code is to make pinpointing an occupation impossible in many cases. While making the on-site visit in Miami, we obtained a series of reports compiled from JOLT employer returns. In these reports the occupational titles as well as six- or nine-digit DOT codes were given. Although some four-digit listings on the BLS vacancy report could not be found on the Miami data sheet, and vice versa, a comparison of the titles ORC was able to assign to the four-digit codes was made with the nine-digit extentions of those same codes. The comparison was made for the current vacancy occupations contained in Table A-IV-8. The results are shown in Table A-IV-14.

Of the 11 occupations for which data were available from both sources, there were four instances in which the additional occupational data lifted a

TABLE A-IV-14

Comparison of Federal- and State-Level Job Titles and Skill Levels[a]

BLS Data DOT	ORC's Job Title	Florida Data DOT	Job Title
521.8	Food processing	521.886.034	Fish machine feeder
739.887.034[b]			
827.8	Assembly, installation and repair of large household appliances	827.884.018	Assembler, coolers
709.8	Fabrication, assembly and repair of metal products	709.884.014	Wire-rope-sling maker
706.8	Metal assembler	706.884.018 and .022	Assembler, product Assembler, small parts
381.8	Porter	381.887.030	Porter
219.4	Accounting clerk	219.488.010	Accounting clerk
078.381	Medical lab ass't	078.381.014 and .018	Nuclear medical tech.[c] Tissue technician
292.3	Salesman-driver	292.358.010	Salesman-driver
209.388.022	Clerk-typist	209.388.022	Clerk-typist
929.8	Packager and material handler	929.887.050	Material handler

[a] Data collected by Olympus Research Corporation.

[b] Data obtained from Florida; data submitted to BLS had been miscoded.

[c] Only "nuclear medical technician" had long-term vacancies, which corresponded to the BLS data.

catch-all title from its obscure status into a position where training planners might be able to use the information. These more informative titles were: cooler assemblers, assemblers of small parts or products, wire-rope-sling maker, and tire builder--all blue-collar occupations.

This indicates that variations among related blue-collar occupations are not brought out as clearly as other occupational groups when the four-digit presentation is used (e.g., optical glass silverer--574-884, and silverer helper--547.887). This weakness of the four-digit code should be kept in mind when JOLT job vacancies are compared to open ES job orders.

CONCLUSIONS

The JOLT occupational data set is a potential source of information for manpower planners. Because of the limitations of the data used (unverified data, only a few cities, and a time period that reflected an economic downturn), the actual occupations and the volume of activity reported may not be generally representative. However, the intent of the analysis was to try a procedure for identifying possible shortage occupations. The method used appears to be both workable and sound.

Part V

CHANGES IN COURSE OFFERINGS

The city "change charts" (for the 14-city sample) in this section are for fiscal years 1969 through 1971. They graphically illustrate the kinds of courses offered and the changes that were made during the three-year period.

CITY CHANGE CHART

ANCHORAGE

Course	1969	1970	1971
Electrician/diesel	X		
Fish cleaner/freezerman	X		
Cook	X		
Instrument man		X	X
Water/sewage plant operator			X

TOTAL number of different occupations: 4

ANALYSIS:

New occupations since 1969: 2

Instrument man, water/sewage plant operator

Three-year repeats: 0

One year only (1969 or 1970): 4

Electrician/diesel, fish cleaner/freezerman, cook,
water/sewage plant operator

CITY CHANGE CHART
DALLAS

Course	1969	1970	1971
Production machine operator	X	X	
Projection printer	X		
Clerk-typist	X	X	
Auto mechanic	X	X	X
Mechanical draftsman	X		
Alteration tailor	X	X	X
Clerk (general office)	X	X	X
Welder, combination	X	X	X
Stenographer		X	
Clerical cluster			X
Medical technician			X
Small engine repair			X

- -

TOTAL number of different occupations: 11

ANALYSIS:

New occupations since 1969: 4

Stenographer, clerical cluster, medical technician.
small engine repair

Three-year repeats: 4

Auto mechanic; alteration tailor; clerk (general office);
welder combination

One year only (1969 or 1970): 3

Projection printer, mechanical draftsman, stenographer

CITY CHANGE CHART
DULUTH

Course	1969	1970	1971
Mechanical draftsman	X	X	X
Cook	X	X	X
Medical laboratory assistant	X		
Combination welder	X	X	X
Clerk-typist	X	X	X
Food preparation cluster		X	X
Clerical cluster		X	X
Gas engine repair		X	X

TOTAL number of different occupations: 7

ANALYSIS:

New occupations since 1969: 1

Gas engine repair

Three-year repeats: 4

Mechanical draftsman, cook, combination welder, clerk-typist

One year only (1969 or 1970): 1

Medical laboratory assistant

CITY CHANGE CHART

FRESNO

Course	1969	1970	1971
Auto mechanic	X		
LVN	X		X
Medical secretary	X		
Shirt presser	X		
Cook	X	X	
Nurse's aide	X		
Vineyard pruner		X	
Industrial spray painter		X	
Combination welder		X	
Clerk (general office)		X	X
Diesel truck mechanic			X
Motorcycle repairman			X
Auto body		X	
Farm equipment repairman		X	
Motel office clerk		X	

TOTAL number of different occupations: 15

ANALYSIS:

New occupations since 1969: 9

Vineyard pruner, industrial spray painter, combination welder, clerk (general office), diesel truck mechanic, motorcycle repairman, auto body, farm equipment repairman, motel office clerk

Three-year repeats: 0

One year only (1969 or 1970): 10

Auto mechanic, medical secretary, shirt presser, nurse's aide, vineyard pruner, industrial spray painter, combination welder, auto body, farm equipment repairman, motel office clerk

CITY CHANGE CHART

MIAMI

Course	1969	1970	1971
Auto body repair	X	X	X
Auto mechanic	X	X	X
Bookkeeping machine operator	X	X	
Chassis assembler	X		
Clerical cluster		X	X
Construction engineer aide		X	
Cook	X		
Mechanical draftsman	X		
Environmental engineer aide		X	
Environmental engineer technician		X	
Food services	X		X
Maintenance man cluster		X	
Office machine repair			X
Receptionist	X		
Sales cluster		X	
Salesperson (general)	X		X
Upholsterer	X	X	X
Combination welder	X	X	X
Woodworking machine operator	X		
Clerk-typist	X		
Nurse, general duty (refresher)	X		
Vending machine repair		X	
Air conditioning mechanic		X	
Marine engine repair		X	

TOTAL number of different occupations: 21

ANALYSIS:

New occupations since 1969: 9

Clerical cluster, construction engineer aide, environmental engineer aide, engineer technician, maintenance man cluster, office machine repair, vending machine repair, auto air conditioning mechanic, marine engine repair

Three-year repeats: 5

Auto body, auto mechanic, sales, upholsterer, welder

One year only (169 or 1970): 13

Chassis assembler, construction engineer aide, cook, mechanical draftsman, environmental engineer aide, environmental engineer technician, maintenance man cluster, receptionist, woodworking machine operator, nurse, vending machine repair, auto air conditioning mechanic, marine engine repair

CITY CHANGE CHART

MILWAUKEE

Course	1969	1970	1971
Auto body	X	X	X
Auto mechanic	X	X	X
Clerk (general office)	X	X	X
Production machine operator	X	X	X
Welder	X	X	X
Medical laboratory assistant	X	X	
Auto systems service		X	X
Clerical cluster		X	X
Metal machinist		X	
Auto emission control		X	

TOTAL number of different occupations: 7

ANALYSIS:

New occupations since 1969: 2

Auto emission control, metal machinist

Three-year repeats: 5

Auto body, auto mechanic, clerk (general office), production machine operator, welder

One year only (1969 or 1970): 2

Metal machinist, auto emission control

CITY CHANGE CHARTS

MONTGOMERY

Course	1969	1970	1971
Nurse, general duty (refresher)	X		
Clerk (general officer)	X	X	X
Orderly	X	X	
Combination welder	X	X	X
Gas engine repair	X	X	
Cook	X		
Duplicating machine operator	X	X	
Trayline worker		X	
Radio and TV repair		X	
Executive housekeeper		X	
Electric appliance service			X

TOTAL number of different occupations: 11

ANALYSIS:

New occupations since 1969: 4

Trayline worker, radio and TV repair, executive housekeeper, electric appliance service

Three-year repeats: 2

Clerk (general office), combination welder

One year only (1969 or 1970): 5

Nurse, general duty (refresher), trayline worker, radio and TV repair, executive housekeeper, cook

CITY CHANGE CHART
NEW HAVEN

Course	1969	1970	1971
Production machine operator	X	X	
Combination welder	X	X	
Clerk-typist	X		
Clerk (general office)		X	
Clerical cluster			X
Auto cluster			X

- -

TOTAL number of different occupations: 4

ANALYSIS:

New occupations since 1969: 2

Clerical cluster, auto cluster

Three-year repeats: 0

One year only (1969 or 1970): 0

CITY CHANGE CHART
NEW ORLEANS

Course	1969	1970	1971
Cook	X	X	X
Surgical technician	X		
Wood furniture repair	X		
Auto body repair	X		
Gas engine repair	X		
Coin machine serviceman	X	X	
Household appliance repair		X	
Alteration tailor		X	
Ward clerk		X	
Water treatment plant operator		X	
Inhalation therapy technician			X
Nurse, general duty (refresher)			X
Stenographer	X		
Floorlayer	X		
Dry Cleaner	X		
Machine presser	X	X	X

TOTAL number of different occupations: 16

ANALYSIS:

New occupations since 1969: 6

Household appliance repair, alteration tailor, ward clerk, water treatment plant operator, inhalation therapy technician, nurse (general duty)

Three-year repeats: 2

Cook, machine presser

One year only (1969 or 1970): 13

Surgical technician, wood furniture repair, auto body repair, gas engine repair, household appliance repair, alteration tailor, ward clerk, water treatment plant operator, inhalation therapy technician, nurse, (general duty), stenographer, floorlayer, dry cleaner

CITY CHANGE CHART

PATERSON

Course	1969	1970	1971
Clerk-typist	X	X	X
Nurse's aide	X		X
Combination welder	X		
Mechanical draftsman		X	
Production machine operator		X	
Air conditioning/refrigeration mechanic			X
Auto body repair			X
Auto service station mechanic			X
Office machine serviceman			X
Transferer II			X

TOTAL number of different occupations: 10

ANALYSIS:

New occupations since 1969: 7

Mechanical draftsman, production machine operator, air conditioning/refrigeration mechanic, auto body repair, auto service station mechanic, office machine serviceman, transferer II

Three-year repeats: 1

Clerk-typist

One year only (1969 or 1970): 3

Combination welder, mechanical draftsman, production machine operator

CITY CHANGE CHART

ROCHESTER

Course	1969	1970	1971
LPN	X	X	X
Cosmetologist	X	X	
Draftsman	X	X	
Machine set-up operator	X	X	
Cook	X	X	
Auto service station mechanic	X	X	
Secretary	X		
Clerk-typist/stenographer		X	X
Clerical cluster			X
Machine occupation cluster			X
Auto service cluster			X
Industrial lens grinder		X	
Optical mechanic		X	

TOTAL number of different occupations: 11

ANALYSIS:

New occupations since 1969: 3

Machine occupations cluster, industrial lens grinder, optical mechanic

Three-year repeats: 4

LPN, machine set-up operator, auto service station mechanic, clerical cluster

One year only (1969 or 1970): 3

Secretary, optical mechanic, industrial lens grinder

CITY CHANGE CHART

ST. LOUIS

Course	1969	1970	1971
Nurse's aide/orderly	X	X	X
Food services	X	X	X
Dry cleaning	X	X	X
Sheet metal assembly	X	X	X
Auto mechanic and body	X		
Metal machine operator	X	X	X
Welder	X	X	X
Building maintenance	X	X	X
General clerical and sales	X		
Alteration tailor	X	X	X
General machine operator	X		
Auto service station mechanic		X	X
Clerk-typist		X	X
Offset duplicating machine operator		X	X
Auto body		X	X
Wastewater treatment operator		X	
Environmental technician		X	
Surgical technician		X	
Electrical assembler			X
Clerk/stenographer			X

TOTAL number of different occupations: 17

ANALYSIS:

New occupations since 1969: 6

Auto service station mechanic, offset duplication machine operator, wastewater treatment operator, environmental technician, surgical technician, electrical assembler

Three-year repeats: 10

Nurse's aide/orderly, food services, dry cleaning, sheet metal assembly, auto body, metal machine operator, welder, building maintenance, clerical, alteration tailor

One year only (1969 or 1970): 5

General machine operator, wastewater treatment operator, environmental technician, surgical technician, electrical assembler

CITY CHANGE CHART
SALT LAKE CITY

Course	1969	1970	1971
Stenographer	X		
Machine set-up operator	X	X	
Auto service mechanic	X	X	
Gas engine repair	X		
LPN	X		
Maintenance mechanic	X		
Clerical cluster		X	X
Auto mechanic cluster		X	X
Auto body repair		X	X
Diesel mechanic		X	X
Combination welder		X	
Preapprentice building trades		X	
Food services			X
Metal machinist cluster			X

TOTAL number of different occupations: 11

ANALYSIS:

New occupations since 1969: 7

Clerical, auto cluster, diesel mechanic, combination welder, preapprenticeship building trades, food services, metal machinist cluster

Three-year repeats: 1

Auto mechanic cluster

One year only (1969 or 1970): 6

Stenographer, gas engine repair, LPN, maintenance mechanic, combination welder, preapprentice building trades

CITY CHANGE CHART

WILMINGTON

Course	1969	1970	1971
Combination welder	X	X	X
Nurse's aide/orderly	X	X	X
Clerk-typist (refresher)	X		
Auto body repair	X	X	X
Machine set-up operator	X	X	
Nurse, general duty (refresher)	X		
Home attendant	X	X	X
Auto mechanic		X	X
Carpenter		X	X
Child day-care worker			X
Clerical cluster			X
Clerk-typist		X	X

TOTAL number of different occupations: 10

ANALYSIS:

New occupations since 1969: 3

Auto mechanic, carpenter, child day-care worker

Three-year repeats: 5

Combination welder, nurse's aide/orderly, clerk-typist, auto body repair, home attendant

One year only (1969 or 1970): 1

Nurse, general duty (refresher)

Part VI

UNKNOWN ENROLLEE CHARACTERISTICS

The two tables that comprise this section show by city and by occupational offerings the percentages of unknown enrollee characteristics as compiled by Olympus Research Corporation.

TABLE A-VI-1

Percentage of Enrollee Characteristics Not Reported
(By city)[a]

SMSA	Total Number	Disadvantaged	Below Poverty Level	Public Assistance Recipient	Unemployed	Unemployed 10 Weeks or More[b]	Minority	Education under 12 Years
All cities	5,980	9.8%	11.6%	0.3%	0.6%	27.5%	3.7%	0.3%
Anchorage	122	0.8	2.5	0.0	0.0	27.9	99.2	0.0
Dallas	280	35.7	37.5	0.7	0.4	22.5	4.3	0.7
Duluth	229	3.1	3.1	0.0	0.0	33.2	2.2	0.0
Fresno	156	0.6	1.3	0.0	0.6	23.7	0.0	0.0
Miami	812	6.7	6.3	0.2	0.6	63.8	2.5	0.5
Milwaukee	1,669	14.4	14.3	0.4	0.6	24.3	0.9	0.2
Montgomery	249	34.5	34.9	0.0	0.0	10.8	0.4	0.0
New Haven	137	0.7	1.5	0.0	0.0	29.2	0.7	0.0
New Orleans	252	9.5	38.5	0.0	0.0	16.7	0.4	0.0
Paterson	200	1.5	2.5	0.0	1.0	20.0	1.0	1.5
Rochester	299	1.0	7.4	0.3	2.0	34.8	0.7	0.3
St. Louis	572	0.5	0.7	0.7	0.5	11.7	5.8	0.2
Salt Lake City	504	0.0	1.0	0.0	0.6	19.6	0.4	0.4
Wilmington	499	13.0%	12.0%	0.2%	0.4%	19.0%	1.2%	0.0%

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[a] Data collected by Olympus Research Corporation.

[b] Some of the records classified as "unknown" are "not applicable." This occurs when the enrollee had been underemployed, employed, or not in the labor force. The true percentage "unknown" is not determined.

TABLE A-VI-2

Percentage of Enrollee Characteristics Not Reported
(By occupational offerings)[a]

Occupational area	Total Number	Disadvantaged	Below Poverty Level	Public Assistance Recipient	Unemployed	Unemployed 10 Weeks or More[b]	Minority	Education under 12 Years
All cities	5,980	9.8%	11.6%	0.3%	0.6%	27.5%	3.7%	0.3%
Clerical and sales	1,760	9.8	10.7	0.2	0.7	36.4	1.2	0.1
Automotive	984	4.1	4.2	0.2	0.2	27.1	1.6	0.7
Welding	809	16.8	17.3	0.5	0.6	20.5	1.4	0.0
Production machine operator	735	8.3	9.1	0.3	0.4	18.0	4.5	0.4
National shortage	109	0.0	0.9	0.0	0.0	44.0	0.0	0.0
Nonauto repair	90	1.1	38.9	0.0	0.0	10.0	0.0	0.0
Health occupations (excluding LPN/RN)	337	15.1	15.4	0.3	0.3	31.8	1.5	0.3
LPN/RN	193	9.3	8.3	0.0	2.1	31.8	1.5	0.3
Other	963	11.2%	15.9%	0.5%	0.6%	21.5%	13.7%	0.4%

[a] Data collected by Olympus Research Corporation.

[b] Some of the records classified as "unknown" are "not applicable." This occurs when the enrollee had been underemployed, unemployed, or not in the labor force. The true percentage "unknown" is not determined.